



**National Science Foundation • Office of Inspector General**  
4201 Wilson Boulevard, Suite I-1135, Arlington, Virginia 22230

**MEMORANDUM**

Date:

FEB 27 2017

To:

Dale Bell  
Director, Division of Institution and Award Support

Jamie French  
Director, Division of Grants and Agreements

From:

Mark Bell  
Assistant Inspector General, Office of Audits

A handwritten signature in blue ink, appearing to read 'Mark Bell', is written over the printed name and title.

Subject:

Audit Report No. 17-1-002  
University of California-Davis

This memo transmits our report for the audit of costs totaling approximately \$142 million charged by University of California-Davis (UC-Davis) to its sponsored agreements with the National Science Foundation (NSF) during the period January 1, 2008, to December 31, 2010. The objectives of this audit were to determine whether (1) UC-Davis has adequate systems in place to account for and safeguard NSF funds, and (2) costs claimed by UC-Davis under a number of NSF awards were reasonable, allowable, and allocable and in conformity with NSF award terms and conditions and applicable Federal financial assistance award requirements.

We found that costs UC-Davis charged to its NSF sponsored agreements did not always comply with applicable Federal, NSF, and university-specific award requirements. Our audit questioned \$382,646 of equipment charges for which UC-Davis could not document allowability on NSF awards; \$83,488 of improper cost transfers; \$39,578 of unallowable and unallocable entertainment costs; \$14,164 of improper purchase card transactions; and \$1,810,627 of salary, benefits, and associated indirect costs for faculty and other senior personnel that were unreasonable and exceeded NSF limitations. The report includes recommendations for NSF to resolve the questioned costs and to ensure UC-Davis strengthens administrative and management controls. UC-Davis's response, provided on May 31, 2016, is attached in its entirety to the report as Appendix A.

In accordance with Office of Management and Budget Circular A-50, Audit Followup, please provide a written corrective action plan to address the report recommendations. In addressing the report's recommendations, this corrective action plan should detail specific actions and associated milestone dates. Please provide the action plan within 60 calendar days of the date of this report.

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Dan Buchtel at 303-844-5645.

Attachment

cc: Alex Wynnyk, Staff Associate for Oversight, DIAS  
Rochelle Ray, Branch Chief, Resolution and Advanced Monitoring Branch, DIAS  
John Anderson, Chair, Oversight Committee, NSB  
Christina Sarris, Assistant General Counsel, OD  
Ken Chason, Counsel to the Inspector General, OIG

**University of California-Davis**

**Audit of Incurred Costs Claimed on  
National Science Foundation Awards  
For the Period January 1, 2008 through December 31, 2010**

**National Science Foundation  
Office of Inspector General**

**February 27, 2017  
OIG 17-1-002**



---

**Table of Contents**

---

Introduction .....	2
Audit Results .....	2
Finding 1: More than \$382,000 of Questioned Equipment Charges .....	3
Equipment Charges Not Included in Award’s Approved Budget.....	3
Equipment Charges in Final 60 Days of Award Periods or After Expiration .....	3
Finding 2: \$83,488 Questioned for Cost Transfers .....	6
Finding 3: \$39,578 of Questioned Entertainment Costs .....	12
Finding 4: \$14,164 of Questioned Purchase Card Transactions .....	14
Finding 5: Over \$1.8 Million of Salary and Benefits Were Unreasonable and Exceeded NSF Limits .....	16
Recommendations .....	20
Appendix A: UC-Davis Response to Draft Audit Report.....	21
Appendix B: Summary of Questioned Salaries, Benefits, and Indirect Costs .....	42
Appendix C: Objectives, Scope, and Methodology .....	46

---

## Introduction

---

The National Science Foundation (NSF) is an independent Federal agency whose mission is “to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.” NSF funds research and education in most fields of science and engineering. NSF does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations, and other research organizations throughout the U.S.

NSF OIG conducted a performance audit of incurred costs for the University of California-Davis (UC-Davis). The audit covered the period from January 1, 2008, through December 31, 2010, and examined \$142,277,798 in costs claimed by UC-Davis under 783 NSF awards.

We conducted this performance audit in accordance with generally accepted government auditing standards, issued by the Government Accountability Office. We provided a preliminary notification of our findings and recommendations to UC-Davis and discussed the findings with UC-Davis officials. UC-Davis provided comments and additional documentation which resolved some of the questioned items. This report contains the findings that were not resolved by UC-Davis’s submissions.

---

## Audit Results

---

Our audit questioned \$2,330,503 of costs claimed by UC-Davis during the audit period of January 1, 2008, through December 31, 2010. Specifically, we questioned:

- \$382,646 of equipment charges for which UC-Davis could not document allowability on NSF awards;
- \$83,488 of improper cost transfers;
- \$39,578 of unallowable and unallocable entertainment costs;
- \$14,164 of improper purchase card transactions; and
- \$1,810,627 of salary, benefits, and associated indirect costs for faculty and other senior personnel that were unreasonable and exceeded NSF limitations.

Generally accepted government auditing standards require us to perform and report on our work independent of outside influences that might compromise our professional judgment, including NSF’s past actions on audit findings and recommendations. With respect to the \$1.8 million of questioned salary, benefits, and indirect costs, similar charges have been questioned in several prior audits. NSF did not agree with the auditors and did not sustain the questioned costs, even when the auditee university agreed to repay the disputed amounts. In line with auditing standards that require us to maintain independence of mind and appearance, we continue to question these charges for the reasons detailed in Finding 5 of this report.

Our draft audit report questioned \$2,497,087. UC-Davis agreed with \$20,156 of the questioned costs and disagreed with \$2,476,931 and provided documentation to support its assertions. We examined UC-Davis’s submissions and removed \$166,684 questioned in our draft report. We continue to question \$2,330,503, as detailed in this report.

## **Finding 1: More than \$382,000 of Questioned Equipment Charges**

We flagged two types of equipment costs for additional analysis. Based on this analysis, we questioned a total of \$382,646 of equipment charges on NSF awards — \$188,352 for which no equipment costs were included in the approved budgets, and \$194,294 for equipment charged within 60 days of the awards' expiration dates or after awards expired. Following are the details of the questioned equipment charges.

### Equipment Charges Not Included in Award's Approved Budget

We questioned \$188,352 for equipment and an associated maintenance agreement charged to an award for equipment that was not included in the NSF approved budget.<sup>1</sup> These charges amounted to 36 percent of total award funding. We found that the budget justification the university submitted stated that the co-principal investigators' laboratories were "excellently equipped" to perform all of the tasks on the project, therefore "no additional equipment is requested." The fact that more than one-third of the total award funds were allocated to an equipment purchase that was deemed unnecessary in the approved budget raised concerns about whether UC-Davis significantly changed the scope from the project approved by NSF. NSF General Grant Conditions require prior approval by the Grants Officer for significant changes in project scope or objective.<sup>2</sup>

Documents provided by UC-Davis show that about \$175,000 of the funding used for the unbudgeted equipment purchase was transferred from funds that NSF had approved to pay salaries, benefits, and associated indirect costs for post-doctoral associates and graduate and undergraduate researchers. UC-Davis provided a copy of an e-mail from the NSF Program Officer indicating approval to "move funds from some budget lines" to purchase the equipment. We asked UC-Davis officials whether the Principal Investigator discussed with the NSF Program Officer the magnitude of the rebudgeting and whether such a significant change might be a change in scope requiring NSF review and approval. UC-Davis provided a statement from the PI that he discussed the rebudgeting with the Program Officer by telephone, but did not have any written record of the discussion. The PI's statement noted that the Program Officer advised the PI that a rebudgeting of this magnitude should only be allowed in an exceptional case. However, the PI's statement did not indicate he discussed with the Program Officer whether the particular circumstances caused a change in scope requiring NSF approval. The only indication that the question of a possible scope change was considered is in an internal UC-Davis communication in which the PI informed the Sponsored Programs Office "there will be no change in project scope at all." We continue to question this equipment purchase because UC-Davis did not provide evidence that the NSF Grants Officer approved this change in project scope or that NSF advised UC-Davis that no such approval was necessary.

### Equipment Charges in Final 60 Days of Award Periods or After Expiration

Our audit questioned \$194,294 for equipment purchased within 60 days of the end of the award or after the award expired. Although Federal cost principles generally permit recipients to incur project-related costs until the award expiration date, such costs must meet allowability requirements, including proper allocation of costs to sponsored projects. NSF reinforced this

---

<sup>1</sup> NSF Award No. [REDACTED]

<sup>2</sup> NSF General Grant Conditions, Article 2.a.1.(b)

requirement in the Award and Administration Guide, which states equipment purchases must be necessary for the research or activity supported by the grant.<sup>3</sup>

We found that the university charged \$131,789 for equipment that had final acceptance on May 1, 2009, several months after the award expired on July 31, 2008.<sup>4</sup> Since the NSF award had already expired before the equipment was delivered and accepted, it does not appear that this equipment benefitted the NSF award. Further, this purchase is noteworthy because NSF amended the award in June 2007, at UC-Davis's request, to extend it to July 31, 2008. According to the amendment, the equipment purchased was necessary to accomplish the primary objective of the award — testing of new imaging devices. We did not find any evidence that UC-Davis requested another extension when it became apparent the equipment would not arrive before the award expiration.

We also questioned \$53,719 for three equipment purchases in March and May 2008. UC-Davis charged these purchases to the same NSF award discussed in the previous paragraph. The PI stated that the purchases were for components for a device that would not be assembled and tested until *after* the award expired. Therefore, it does not appear that these purchases benefitted the NSF award.

Finally, we identified \$8,786 in equipment costs charged in July 2008 to an award that expired at the end of August 2008.<sup>5</sup> We examined the documents UC-Davis provided and found that the claimed costs constituted an advance payment to the vendor and that the equipment was not delivered to UC-Davis until after the NSF award had expired. According to UC-Davis, the PI borrowed an identical item from another professor and this purchase was to replace the borrowed item. While there may have been benefit to the award from the use of the borrowed item, UC-Davis did not provide evidence of the allowable cost in accordance with OMB requirements. If the borrowed item was owned by UC-Davis, then the allowable cost would be limited to the actual costs of the use of the item, reported in UC-Davis's accounting records.<sup>6</sup> If the borrowed item was not owned by the university, the allowable cost would be limited to the fair market value on the date of the transfer, as reflected in UC-Davis's accounting records.<sup>7</sup>

#### *UC-Davis Response*

OIG's draft audit report questioned \$399,201 of equipment charges for which there were no equipment costs in the approved award budget (\$204,907) or when equipment was purchased in the final 60 days of the award period or after the award had expired (\$194,294). UC-Davis disagreed with all \$399,201 of equipment costs questioned in the draft audit report. The following summarizes UC-Davis's responses to the questioned equipment costs.

- UC-Davis did not agree that \$188,352 claimed for purchases of equipment and a maintenance agreement that were not included in the proposal budget is questionable. OIG had questioned the costs on the basis that they appeared to be an unapproved change in the project scope. UC-Davis reiterated the PI's statement that the project scope did not change

---

<sup>3</sup> NSF Award and Administration Guide, Chapter IV, Section E.2.a.(i)

<sup>4</sup> NSF Award No. [REDACTED] expired July 31, 2008. Final equipment acceptance was May 1, 2009.

<sup>5</sup> NSF Award No. [REDACTED]

<sup>6</sup> 2 CFR Part 215, Sections 215.23(a)(1), 215.23(c), and 215.23(g)(2)

<sup>7</sup> 2 CFR Part 215, Sections 215.23(a)(1) and 215.23(h)(2)

and that the equipment was needed to overcome a “technological bottleneck.” The university also reiterated that its Sponsored Programs Office contacted the NSF Program Officer about a change in scope and required a written response from the Program Officer before proceeding with the reprogramming of funds.

UC-Davis also commented on OIG’s concern stated in the draft audit report that the funds used to purchase the equipment were taken from amounts budgeted to fund non-faculty researchers. UC-Davis stated that researchers and students working on the project were paid with university funds. We accepted UC-Davis’s explanation and removed the paragraph from the final audit report.

- UC-Davis provided clarification of the PI’s statement supporting allowability of a questioned \$16,556 equipment purchase. We removed the questioned costs from the final report.
- UC-Davis disagreed that two equipment purchases of \$131,789 and \$53,719 should be questioned. According to UC-Davis, the purpose of the grant was to build a test facility for future use and its final assembly was impacted by vendor delays and “(t)he fact that these components arrived after the grant expired in no way negates the usefulness or benefit to the project.” UC-Davis also provided a statement from the NSF Program Officer,

*We have always felt that equipment purchased late in an award was acceptable as long as it was used for a continuation of the project and connected research ... I can state that to the best of my knowledge as NSF program officer ... since the time of this award, all equipment continues to be used on continuations of the work for which that award was made, in the context of the larger ... project.*

UC-Davis also included text from NSF’s Award and Administration Guide, stating, “commitment of project funds is valid when specialized (research) equipment is ordered well in advance of the expiration date but where, due to unusual or unforeseen circumstances, delivery of such equipment is delayed beyond the expiration date.”<sup>8</sup> Finally, the university stated it has internal procedures in place to review large equipment purchases late in awards to ensure appropriateness.

- UC-Davis disagreed with OIG’s questioning of an \$8,786 transaction for which the equipment was delivered more than year after the award expired. The university stated the equipment in question, a valve ordered in 2007, would not be delivered in time to complete the award. The PI arranged to “borrow” an identical valve from a colleague with the understanding the new valve would be given to the colleague as a replacement.

### *OIG Comments*

We accepted UC-Davis’s responses for \$16,556 of costs that were questioned in the draft audit report and removed those questioned items from the final report. We continue to question \$382,646 of equipment costs, as explained below.<sup>9</sup>

---

<sup>8</sup> UC-Davis’s response cites this as NSF Award and Administration Guide 602.3. The correct citation for the provision is NSF Award and Administration Guide, Chapter V, Section A.2.c.

<sup>9</sup> Due to rounding in multiple equipment transactions, the sum of costs questioned (\$382,646) and costs accepted (\$16,556) differs by \$1 from equipment costs questioned in the draft report (\$399,201). Amounts reported above are



UC-Davis provided no new information to support the allowability of \$188,352 claimed for unbudgeted equipment. We recognize that UC-Davis contacted the Program Officer concerning the purchase; however, there is no indication in the written record that the Program Officer was aware of the magnitude of this purchase — 36 percent of the total grant budget — or advised UC-Davis this was not a change in scope. Although NSF’s Award and Administration Guide does not provide guidelines to consider in assessing changes in scope, we found that the National Institutes of Health (NIH) has published such guidance.<sup>10</sup> While other agency guidelines are not binding on NSF grants, the fact that this transaction substantially exceeded those thresholds supports our concerns with this purchase.

- UC-Davis did not provide new information to support the allowability of \$131,789 and \$53,719 of equipment purchases questioned in the draft audit report. The amendment extending the award in question clearly states that the award’s purpose was to test imaging devices using the equipment purchased with NSF funds. Since the equipment was not delivered before the award’s expiration, the testing could not have been completed during the award period; thus, the equipment did not benefit accomplishment of award objectives. The Program Officer’s statement that the equipment remains in use on the overall larger project further supports our contention that it did not benefit the award charged, which expired July 31, 2008, but rather should have been charged to another award.

UC-Davis cited the Award and Administration Guide, specifically language stating that specialized research equipment ordered well in advance of the expiration date but delivered after an award expires could be allowable. However, the overarching principle for allowability requires direct benefit to accomplishing the objectives of the award. As explained above, the equipment did not benefit the award to which it was charged.

- We continue to question \$8,786 claimed for equipment that was delivered well after the award expired. UC-Davis explained that the equipment was replacement for an identical item borrowed from another professor. UC-Davis did not provide support that the amount claimed is the correct allowable cost in accordance with OMB requirements.

## **Finding 2: \$83,488 Questioned for Cost Transfers**

Cost transfers are defined as the charging of an expenditure initially posted to one project or award over to another project or award. We flagged two types of cost transfers for additional analysis — transfers within the final 60 days of award periods and transfers made after awards expired. Federal regulations prohibit awardees from incurring costs on Federal awards after the award’s expiration date.<sup>11</sup> In addition, Federal cost principles state that costs must be charged on the award they benefit<sup>12</sup> and that overruns on an award cannot be charged to another award that has available funding.<sup>13</sup> We flagged transfers made within the final 60 days of award periods because such transactions indicate a risk of costs being transferred simply to liquidate available funds with costs that do not benefit the award, and/or to recover losses on other awards.

---

correct.

<sup>10</sup> NIH published a list of 11 actions “that are likely to be considered a change in scope,” including (1) significant rebudgeting, which NIH defines as deviations within a single direct cost budget category of more than 25 percent, and (2) purchasing a unit of equipment exceeding \$25,000.

<sup>11</sup> 2 CFR, Part 215, Section 215.28

<sup>12</sup> OMB Circular A-21, Appendix A, Section C.4.a

<sup>13</sup> OMB Circular A-21, Appendix A, Section J.29

Based on our analysis of the support for these transfers, we questioned 30 cost transfer transactions, totaling \$83,488, that were made within the final 60 days of the award periods. The questioned costs include \$76,935 of direct costs and \$6,553 of associated indirect costs.

Nineteen of the questioned transactions (\$45,323) were for costs transferred from an award in the two days before the expiration date to another award, which began immediately after the first award expired. On July 30 and 31, 2009, UC-Davis transferred \$45,323, in a series of three financial journal entries, from an award expiring July 31, 2009, to an award starting August 1, 2009.<sup>14</sup> UC-Davis's justification for the transfers was that it incurred the costs within 90 days prior to the starting date of the new award. NSF permits awardees to incur allowable costs within 90 days of the start of an award, provided the advanced funding is necessary for the effective and economical performance of the project.<sup>15</sup> We questioned the \$45,323 transfer because the original award was in place to fund the costs, thus UC-Davis did not have a need for advanced funding from the new award. Further, cost summaries provided by UC-Davis showed some of the transferred costs were incurred as early as November 2008, well over 90 days before the new award started, on August 1, 2009.

We also found that the award from which the \$45,323 was transferred had been financially closed as of March 31, 2010, with all Federal funds disbursed. Thus, had UC-Davis not transferred the costs out of this award in the final two days of the award period onto an award with available funds, the expiring award would have been in a loss position. Federal cost principles state that losses on one award cannot be absorbed by another award with available funds.

In another example of an apparent transfer of a loss, we questioned \$5,924 of direct costs and \$3,080 of associated indirect costs that were transferred in three transactions from one NSF award to another award within a month of the first award's expiration.<sup>16</sup> UC-Davis's financial report to NSF for the quarter prior to the transfers shows all NSF funds had been expended. Additionally, the report submitted after the transfers showed that all NSF funds had been spent. Thus, the award would have been in a loss position if the transfers had not been made.

We also questioned \$15,000 of workshop costs transferred to an NSF award less than two months before the award expired.<sup>17</sup> The transfer represented one-half of the \$30,000 contributed by a UC-Davis center to support a workshop conducted at another University of California campus. UC-Davis did not demonstrate sufficiently how it determined that one-half of the total commitment benefitted the NSF award. Further, UC-Davis stated that the NSF contribution was used to fund speakers' transportation, lodging, and other travel costs for workshop participants. UC-Davis did not provide details of the travel costs paid with the NSF funds and as a result, we could not assess whether these costs were allowable.

We questioned \$1,518 of travel costs that were transferred onto an NSF award two weeks before its expiration date.<sup>18</sup> This transfer was one of a series of 22 transfers onto an NSF award in March 2009 for costs related to a workshop held six months earlier, in September 2008. Although the workshop

---

<sup>14</sup> Costs transferred from NSF Award No. [REDACTED] onto NSF Award No. [REDACTED].

<sup>15</sup> NSF Award and Administration Guide, Chapter V, Section A.2.b.

<sup>16</sup> Costs transferred from NSF Award No. [REDACTED] to NSF Award No. [REDACTED].

<sup>17</sup> NSF Award No. [REDACTED]

<sup>18</sup> NSF Award No. [REDACTED]

to which the transfers were related took place in September 2008, support for the \$1,518 transaction shows that it was for an international airfare with travel dates of October 20–25, 2008, more than a month after the workshop. UC-Davis did not explain its rationale for claiming this cost incurred a month after the related workshop.

In another example, we questioned a \$1,120 transfer made on May 15, 2008, for travel costs related to a conference in September 2007, nearly eight months prior to the date of the cost transfer.<sup>19</sup> This transfer did not comply with the university’s policy on timeliness of transfers, which states, “If the expense is being transferred to a Federal or Federal flow-through account, it must be recorded in the general ledger **within 120 days** from the close of the month in which the original charge posts to the ledger.” UC-Davis’s policy allows transfers beyond the 120-day deadline in “very rare occasions” if the requester explains and documents the unavoidable circumstances that led to the late transfer. The documents UC-Davis provided did not demonstrate that transferring the cost after the 120-day transfer period was “unavoidable,” as UC-Davis policy required. We also found that UC-Davis’s annual report to NSF listed students who attended the conference, but the list did not include the name associated with the late cost transfer.

We identified \$4,391 of direct costs and \$2,261 of indirect costs transferred in three transactions onto an NSF award one month before it expired.<sup>20</sup> UC-Davis provided documents that showed the transfers were a portion of monthly chemistry stores purchases totaling more than \$19,000 over a four-month period. The documents UC-Davis provided lacked sufficient detail to determine which items among the numerous purchases comprised the \$4,391 of direct cost transfers; thus, we were not able to assess whether they were allowable, and we questioned these costs.

Finally, we questioned two cost transfers for which UC-Davis’s documentation did not support that the costs benefitted the NSF award. In the first example, UC-Davis transferred \$2,354 for direct travel costs and \$1,212 for associated indirect costs onto an NSF award for a trip that did not appear to benefit the award.<sup>21</sup> The university’s expense report stated that this travel was for “Reconnaissance field work ... for future research,” not for the award to which the costs were charged.

In the second example, the university transferred \$1,305 for graduate student fees and health insurance costs.<sup>22</sup> UC-Davis’s final report for this award did not include this graduate student among the students listed as having worked on the project.

#### *UC-Davis Response*

OIG’s draft audit report questioned \$101,988 of cost transfers that occurred within the final 60 days of the respective award periods and an additional \$80,830 of cost transfers that were made after the awards expired. UC-Davis agreed with \$15,656 and disagreed with \$86,332 of questioned costs transfers that occurred within the final 60 days of the award periods. UC-Davis also disagreed with \$80,830 of questioned cost transfers that occurred after awards expired.

---

<sup>19</sup> NSF Award No. [REDACTED]

<sup>20</sup> NSF Award No. [REDACTED]

<sup>21</sup> NSF Award No. [REDACTED]

<sup>22</sup> NSF Award No. [REDACTED]

The transfers UC-Davis agreed were questionable and committed to remove costs from the respective awards include:

- Transfer of an apparent loss from one NSF award onto another NSF award, totaling \$9,004 of direct (\$5,924) and associated indirect costs (\$3,080).
- Transfer of supplies purchases totaling \$6,652 of direct (\$4,391) and associated indirect costs (\$2,261) that lacked sufficient detail to assess allowability to the NSF award.

The university disagreed with the following transfers made within 60 days of award expiration and questioned in the draft audit report.

- UC-Davis disagreed that 19 transfers, totaling \$45,323, between two NSF awards should be questioned. UC-Davis stated that the second award was a continuation award and pointed to NSF's policy that allows preaward costs incurred within 90 days prior to the effective date of an award.
- UC-Davis believes a \$15,000 transfer onto an NSF award related to a workshop held at another University of California campus is allowable. The transfer is in line with the award proposal in which UC-Davis requested NSF funding for half the cost of sponsored workshops. UC-Davis noted that at the time the costs were incurred it did not require detailed cost records from its sister campuses but is developing procedures to "require more accountability."
- UC-Davis provided additional support for its calculation of \$5,774 of direct costs and \$3,002 of associated indirect costs that were questioned in the draft audit report. OIG removed these questioned costs from the final report.
- UC-Davis disagreed with OIG's questioning of \$10,563 in a series of 22 cost transfers onto an NSF award within two weeks of its expiration date. The response stated, "The questioned costs represent six individual travel expense claims for workshop participants originally posting into the ledgers in November/December 2008. The subsequent cost transfers occurred in March 2009 which is a reasonable time period in which to make corrections." Based on initial recording dates in November and December 2008, the associated transfers in March 2009 were within the 120-day limit established by UC-Davis policy. OIG removed \$9,045 of questioned costs from the final audit report, but continues to question \$1,518, as discussed above.
- UC-Davis disagreed with \$1,120 questioned for a May 2008 transfer of costs related to a September 2007 conference. The response stated, "During award closeout it was discovered this travel had been posted to another account in error and the cost transfer was made to correct this error. UC Davis maintains its position that this was an allowable and allocable expense." The response did not address OIG's concerns about the timeliness of the cost transfer.
- UC-Davis did not agree with the draft report questioning \$2,354 of direct travel costs and \$1,212 of associated indirect costs transferred onto an NSF award less than a month before it expired. UC-Davis's response stated, "The idea (of the NSF-funded project) was to foster mentorship through a camp-style field experience and this trip was taken to check out potential sites of geologic interest, assess camping facilities, possible routes, and estimate costs." UC-Davis asserted that the costs were allowable as claimed on the NSF award.
- UC-Davis disagreed with \$1,305 of graduate student fees and health insurance costs, plus \$679 of indirect costs. First, UC-Davis stated that no indirect costs were charged in this cost

transfer. The response then stated the transfer was to correct an error when fees and benefits were omitted from the student's salary and restated UC-Davis's position that the costs are allowable.

The university disagreed with the following transfers made after awards had expired and questioned in the draft audit report.

- UC-Davis explained that \$15,194 of direct supplies costs and \$7,901 of associated indirect costs were not charged to an NSF award when incurred due to concerns about the award budget. UC-Davis provided documentation showing the costs were in line with other regular supply charges on the award. We removed these questioned costs from the final audit report.
- UC-Davis provided documents showing that even after removing \$9,657 of direct costs and \$5,021 of associated indirect costs from an NSF award account after expiration, total expenditures exceeded approved NSF funding and thus no credit was due NSF after the cost transfers. We removed these questioned costs from the final audit report.
- UC-Davis disagreed with \$14,072 of direct (\$9,197) and indirect (\$4,875) costs questioned in a series of 24 transactions from an expired NSF award onto an active award. The response highlighted the PI's justification that the costs were directly related to the scope of the active award and therefore allowable. UC-Davis also provided weekly cash draw analyses for the transfer period. We removed the questioned costs from the final report.
- UC-Davis provided a transaction listing for an NSF award from which \$7,559 of direct costs and \$3,930 of associated indirect costs were transferred after expiration, but no credit was given to NSF. The transaction listing shows there were sufficient expenditures in excess of total NSF funding to absorb the credit. We removed the questioned costs from the final report.
- UC-Davis provided a transaction listing and cash reconciliation showing that NSF received appropriate credits for \$4,141 of direct costs and \$2,153 of associated indirect costs transferred from an NSF award after it expired. We removed the questioned costs from the final report.
- UC-Davis explained that two transfers totaling \$3,518 corrected an error in posting of costs to an NSF doctoral dissertation improvement grant. OIG reviewed the university's explanation and supporting documentation and removed the questioned costs from the final report.
- UC-Davis provided documentation to support its claim that a \$3,124 indirect cost transfer was credited to NSF. We removed the questioned costs from the draft audit report.
- UC-Davis explained that \$3,000 of direct benefits costs questioned in the draft audit report related to correction of a system error that caused the amount of a prior transfer of benefits costs to be incorrectly posted. OIG examined UC-Davis's supporting documentation and removed the \$3,000 of questioned direct costs from the final report, along with \$1,560 of OIG-computed indirect costs that also were questioned in the draft report.

#### *OIG Comments*

We accepted UC-Davis's responses for \$99,330 of costs that were questioned in the draft audit report and removed those questioned items from the final report. We continue to question \$83,488, including the \$15,656 with which UC-Davis agreed. The following items summarize our disagreements with UC-Davis's response.

- UC-Davis did not provide new documentation to support allowability of \$45,323 transferred between two NSF awards as one was expiring and another beginning. NSF policy related to renewed support — when an ongoing project receives renewed funding under a new award number — states, “Costs incurred under the old award cannot be transferred to the new grant.”<sup>23</sup> The costs in question were incurred prior to the July 31, 2009, expiration of the old award and before the new award’s effective date of August 1, 2009; thus, NSF policy prohibits transfer to the new award.

We do not agree that the costs should be allowable based on NSF’s pre-award cost policy. NSF allows pre-award costs when “the advanced funding is necessary for the effective and economical conduct of the project.”<sup>24</sup> Advanced funding from the new award was not necessary because there was an ongoing NSF award in effect when the costs were incurred. Furthermore, although the cost *transfers* took place within two days of the effective date of the new award, the transferred costs were *incurred* as early as November 2008, well over 90 days before the award start date. UC-Davis did not address this issue in its response.

- UC-Davis did not provide new documentation for a questioned \$15,000 cost transfer related to a workshop held at another University of California campus. As noted in UC-Davis’s response, the proposal requested NSF funding to support half the *cost* of sponsored workshops. UC-Davis acknowledged that it did not require cost records from its sister campuses and thus cannot provide cost records in support of the claim. We continue to question this \$15,000 transfer.
- OIG continues to question \$1,518 that is one of 22 transfers, totaling \$10,563, questioned in the draft audit report. UC-Davis provided no additional information to support allowability of travel costs incurred in October 2008 for a workshop that took place a month earlier.
- UC-Davis did not provide new information supporting allowability of \$1,120 of travel costs transferred onto an NSF award nearly eight months after they were incurred. In particular, UC-Davis did not provide justification for the untimely transfer or explanation of the unavoidable circumstances that prevented a timely cost transfer, as required by UC-Davis policy. We continue to question these costs.
- OIG continues to question \$3,566 of direct (\$2,354) and associated indirect (\$1,212) costs related to travel costs charged for “reconnaissance field work ... for future research.” While the purpose of the NSF award may have included funding field research projects, UC-Davis did not provide evidence that this reconnaissance trip, in September 2008, resulted in “future research” prior to the end of the award on December 31, 2008.
- OIG continues to question \$1,305 for graduate student fees and health insurance costs transferred onto an NSF award. UC-Davis did not provide support for its contention that this student worked on the award. As stated above, the final report submitted to NSF did not list this student among the graduate students who worked on the award. OIG did remove the \$679 of indirect costs questioned in the draft audit report based on UC-Davis’s assertion that no indirect costs were allocated to this transaction.

---

<sup>23</sup> NSF Award and Administration Guide, Chapter I, Section E.2.

<sup>24</sup> NSF Award and Administration Guide, Chapter V, Section A.2.b.(i)(b)

### Finding 3: \$39,578 of Questioned Entertainment Costs

We examined a selection of 26 transactions that were flagged for additional review by three or more of our analytical tests. Our use of data analytics enabled us to test transactions that exhibit certain risk factors. Total direct costs claimed in these 26 transactions were \$113,831. We identified a total of \$39,578 in questioned entertainment costs.<sup>25</sup>

UC-Davis claimed \$39,578 of questioned entertainment costs in a series of three transactions. The first two transactions were for workshops held in August and November 2007. Costs for these events were not charged to an NSF award until February 2008.<sup>26</sup> The third transaction was for the January 2008 annual conference of the Institute for Complex Adaptive Matter (ICAM).<sup>27</sup> For each of these events, UC-Davis allocated some costs to an NSF award and some costs to another university account. While UC-Davis provided invoices showing the *total* costs charged to the university for each event, it did not identify which costs were allocable to the NSF awards. Additionally, in two of the three cases, UC-Davis appears to have simply split the total costs equally between NSF and UC-Davis accounts. Federal cost principles state that a cost is allocable, and thus allowable, to a particular project or award based on the relative benefits received. UC-Davis did not provide sufficient evidence of its calculations to demonstrate how it determined exactly one-half the costs of these two workshops were directly related to the NSF award. We questioned costs for three workshops because UC-Davis did not identify which costs on invoices submitted were allocable to the NSF award and did not provide evidence to support how it determined these allocations.

The following summarizes the \$39,578 of questioned entertainment costs:

- Superfluid Universe Workshop: Total charges for this August 2007 workshop were \$15,334, of which \$5,838 was paid during our audit period and split equally between the NSF award and another account. We questioned the \$2,919 portion that was charged to NSF during the audit period.
- Heavy Fermion Workshop: We questioned the \$13,026 UC-Davis charged NSF. This represents exactly one-half the total cost for the November 2007 workshop.
- ICAM Annual Conference: Total cost for the January 2008 conference was \$43,633; UC-Davis charged \$23,633 to NSF and \$20,000 to another university account. We questioned the \$23,633.

Further, invoices for the three events included a total of \$4,881 for purchases of alcoholic beverages, which are prohibited by Federal cost principles. Although UC-Davis claims no Federal funds were used to purchase alcohol, we could not verify UC-Davis's claim because the university could not provide evidence for how it split costs between the NSF awards and other accounts. UC-Davis should improve its accounting procedures in cases where Federal and nonfederal funds are applied to a pool of transactions to clearly demonstrate which costs are paid with Federal money

---

<sup>25</sup> The term "entertainment costs" is based on UC-Davis's accounting object code title.

<sup>26</sup> NSF Award No. [REDACTED]

<sup>27</sup> NSF Award No. [REDACTED]

and reduce concerns that Federal funds were used for unallowable purposes.

### *UC-Davis Response*

OIG's draft audit report had questioned \$68,162 of entertainment and supplies costs. UC-Davis disagreed with all costs questioned in the draft audit report. The following summarizes the bases for UC-Davis's disagreement:

- UC-Davis stated that the \$39,578 of questioned entertainment costs charged to two NSF awards supported ongoing programs of the Institute for Complex Adaptive Matter (ICAM) and pointed out that the proposal budget justification for one of the awards stated that UC-Davis was seeking NSF support for half of the cost of each ICAM workshop.

The draft audit report also questioned the reasonableness of \$320 charged for a conference attendee who arrived two days before the conference began and was charged a higher lodging rate by the hotel. UC-Davis explained that this individual was an IT support person for the conference and needed to arrive early to set up. UC-Davis stated that the hotel would not honor the conference lodging rate for the early arrival.

UC-Davis reasserted its claim that charges for alcohol were paid from the portion of costs not allocated to NSF.

- OIG's draft audit report had questioned \$23,799 of direct entertainment and associated indirect costs. UC-Davis provided a detail of the individual charges that made up the \$20,438 of direct costs claimed on the NSF award. We removed these questioned costs from the final report.
- The draft audit report had questioned \$3,662 of direct supplies and associated indirect costs claimed on the award expiration date. UC-Davis provided a listing of all DNA extractions performed as well as the publication that resulted from the research. We removed these questioned costs from the final audit report.
- OIG's draft audit report had questioned \$1,000 of entertainment costs claimed for a nonrefundable deposit paid in October 2010 for an annual business meeting to be held later in the year. UC-Davis provided an invoice showing that the meeting did take place as scheduled. We removed these questioned costs from the final audit report.
- OIG had questioned \$123 of entertainment costs claimed for 11 lunches in July 2010. UC-Davis stated the lunches were provided in connection with a summer training program and were included in the grant proposal budget. After reviewing the documents, we removed these questioned costs from the final audit report.

### *OIG Comments*

We removed \$28,584 that had been questioned in our draft audit report and continue to question \$39,578 for the reasons stated in the finding section above. UC-Davis did not provide a detailed accounting of which costs among the many included on the various invoices made up the \$39,578 of entertainment costs charged to NSF, as it did with other entertainment costs questioned in the draft audit report.

UC-Davis did not provide evidence to support its claim that charges for alcohol provided at the



workshops and conference were not paid by NSF funds. UC-Davis's practice of simply splitting the total cost, which included the alcohol, between NSF and non-NSF funds raises questions about UC-Davis's controls to prevent expenditure of Federal funds on unallowable purchases of alcoholic beverages.

#### **Finding 4: \$14,164 of Questioned Purchase Card Transactions**

We selected 39 purchase card transactions, totaling \$108,807, for examination. The selected transactions were claimed on 27 different NSF awards and represented all reported purchase card transactions in excess of \$2,000 each. We questioned five of the selected transactions, totaling \$14,164, claimed on five NSF awards.

Two of the questioned transactions, totaling \$6,693, were to buy computers or technology-related items for which UC-Davis charged the entire purchase cost to the respective NSF award, while its explanations for the purchases indicate the items would benefit the NSF award and other work. UC-Davis did not provide documentation to support what portions of the costs were allocable to the NSF awards to which they were charged. The two questioned transactions involve purchases of \$4,470<sup>28</sup> and \$2,223.<sup>29</sup>

UC-Davis did not provide documentation supporting the allowability of two purchase card transactions of \$2,230<sup>30</sup> and \$2,031.<sup>31</sup> In the case of the \$2,230 charge, UC-Davis staff explained that both the principal investigator and purchaser of this item were no longer employed by UC-Davis so they were unable to obtain justification for the purchase. UC-Davis staff informed us that they were awaiting justification from the principal investigator for the \$2,031 purchase. We discussed this finding with UC-Davis officials during our exit conference, but UC-Davis has not provided additional justification.

We also questioned a \$3,210 purchase card transaction. The costs associated with this purchase of a laptop computer were transferred from one NSF award onto another in May 2008, after the principal investigator was notified that the original award was in an overdraft position.<sup>32</sup> We noted that the proposal for the grant onto which the costs were moved stated that computer equipment required for the project would be provided by funding from the university. Given that Federal cost principles state that losses on another sponsored agreement cannot be absorbed by an award with available funds, and that UC-Davis's proposal stated that computer equipment required for the project would be provided by internal sources, we questioned this \$3,210 purchase card transaction.

#### *UC-Davis Response*

OIG's draft audit report had questioned \$26,113 of purchase card transactions. UC-Davis agreed with \$3,210 and disagreed with \$22,903. UC-Davis disagreed with the following transactions questioned in the draft audit report:

---

<sup>28</sup> NSF Award No. [REDACTED]

<sup>29</sup> NSF Award No. [REDACTED]

<sup>30</sup> NSF Award No. [REDACTED]

<sup>31</sup> NSF Award No. [REDACTED]

<sup>32</sup> Costs transferred from NSF Award No. [REDACTED] onto NSF Award No. [REDACTED].

- UC-Davis disagreed with \$4,470 questioned in OIG’s draft report. The university’s response stated that the PI split the cost of two servers between two awards based on her “best estimate” of the workload between the awards.
- UC-Davis disagreed with \$3,543 and provided the PI’s justification for charging the full cost of the server to the NSF award. We removed these questioned costs from the final report.
- UC-Davis referred to the award proposal as evidence that a \$3,268 laptop computer was needed for the award. We removed these questioned costs from the final report.
- UC-Davis referred to documentation that supported the use of a \$2,382 computer for the award. We removed these questioned costs from the final report.
- The university disagreed with \$2,223 questioned in OIG’s draft report and responded that it relies on the PI to allocate costs properly to sponsored and non-sponsored projects.
- UC-Davis disagreed with \$2,230 questioned in OIG’s draft report. UC-Davis stated that the computer was needed for extensive calculations and it relies on the PI to allocate costs properly to sponsored and non-sponsored projects.
- UC-Davis disagreed with \$2,031 questioned in OIG’s draft report. UC-Davis stated that the computer was needed for extensive calculations.
- UC-Davis disagreed with \$2,756 and reiterated its position that the total purchase price of the computer in question was allocated between the NSF award and another account based on anticipated benefits. We removed these questioned costs from the final report.

#### *OIG Comments*

We removed \$11,949 questioned in our draft audit report and continue to question \$14,164, including the \$3,210, with which UC-Davis agreed. The following items summarize our disagreements with UC-Davis’s response.

- UC-Davis responded that the \$4,470 questioned was allocated between two NSF awards based on the PI’s workload computation. However, documents provided by UC-Davis show that the amount claimed was the total invoice cost of the two servers in question. Furthermore, UC-Davis’s final report for NSF Award No. 0238348 stated that the servers were also used by another researcher, yet there was no allocation of the costs to his research. We continue to question \$4,470.
- UC-Davis responded that the \$2,223 questioned computer purchase is allowable because the PI used it “to work on this particular NSF project and no other projects.” While prior statements from the PI indicate the computer was used for the NSF award, the statements also mention continued use after the end of the award. We continue to question \$2,223 because UC-Davis did not provide adequate support for its contention that the computer was only used in support of the award to which it was fully charged.
- Although UC-Davis responded that the PI stated the computer associated with the \$2,230 questioned purchased was needed for the award, UC-Davis did not provide support for its assertion. UC-Davis’s response contradicts earlier statements from UC-Davis that both the PI and computer purchaser had left the institution and could not be reached for further comment on the purchase. Since UC-Davis did not provide new information, we continue to question \$2,230.
- UC-Davis responded that the workstation associated with the \$2,031 questioned purchase was needed for the award, but did not provide support for its assertion. Prior to our draft report, UC-Davis was awaiting the PI’s justification. Since UC-Davis did not provide

support for its claim, we continue to question \$2,031.

### **Finding 5: Over \$1.8 Million of Salary and Benefits Were Unreasonable and Exceeded NSF Limits**

We found that UC-Davis claimed \$1,810,627<sup>33</sup> of questioned salary (\$897,803), benefits (\$289,371), and associated indirect costs (\$623,453). The questioned costs involve salaries of faculty members and other senior project personnel that exceeded limits in NSF policy.

At the time of our audit, NSF's long-standing position was that research is a normal function of faculty members and "[c]ompensation for time normally spent on research within the term of appointment is deemed to be included within the faculty member's regular organizational salary."<sup>34</sup> Given NSF's position that faculty are paid by their institutions to conduct research during academic appointment terms, it would be unreasonable for awardees to transfer this obligation to NSF by requesting reimbursement for such research without NSF's approval. NSF reinforced its position and established compensation limits in the Award and Administration Guide, which sets forth NSF policies and is applicable to all NSF grants unless otherwise noted in the award. During the period we audited the Guide stated:

NSF normally limits salary compensation for senior project personnel on awards made by the Foundation, to no more than two months of their regular salary in any one year. This limit includes salary received from all NSF funded grants. ... As such, proposal budgets submitted should not request, and NSF-approved budgets will not include, funding for an individual investigator or co-principal investigator which exceeds two months of their regular year salary. If anticipated, ***any compensation for such personnel in excess of two months must be disclosed in the proposal budget, justified in the budget justification, and must be specifically approved by NSF in the award notice.***<sup>35</sup> [Emphasis added.]

While NSF generally considers inclusion of items in an approved budget as authorization to incur those costs,<sup>36</sup> this is not the case with senior personnel salaries that exceed two months in any one year. The Award and Administration Guide stated, during the time of our audit, that NSF-approved budgets will not include senior personnel salaries that exceed two months and that such salaries are only allowable if they meet the three requirements described above, including specific approval by NSF in the award notice. Furthermore, the Award and Administration Guide listed the components of an NSF award instrument and distinguished the award notice as being separate from the award budget and the proposal.<sup>37</sup> Since the allowability requirement in effect during the time period of our audit stated that NSF approval for salaries exceeding two months per year must be specifically provided "in the award notice," simply mentioning such salaries in a proposal and/or including them in an award budget is not sufficient to establish allowability.

In addition, NSF policy allows awardees significant latitude to rebudget funds between budget

---

<sup>33</sup> UC-Davis claimed \$22,945 of the questioned salaries in 2008, and \$1,787,682 of the questioned salaries in 2009 and 2010, after a revision to NSF's policy became effective in January 2009.

<sup>34</sup> NSF Grant Proposal Guide, Chapter II, Section C.2.g.(i)(a).

<sup>35</sup> NSF Award and Administration Guide, effective January 2009, Chapter V, Section B.1.a.(ii)(a).

<sup>36</sup> NSF Award and Administration Guide, Chapter V, Section A.3.b.(i).

<sup>37</sup> NSF Award and Administration Guide, Chapter I, Section B.1.

categories,<sup>38</sup> but during the period of our audit, this authority did not allow awardees to rebudget funds to pay senior personnel salaries that exceed two months in any one year. During the audit period, salaries exceeding two months were allowable only if specifically approved by NSF in the award notice. Awardees could not transform unallowable costs — in this case, senior personnel salaries that exceeded two months per year and were not approved by NSF in the award notice — into allowable costs simply by moving funds from other budget categories to pay them. NSF recognized this in the Award and Administration Guide, which states, “... the grantee is authorized to transfer funds from one budget category to another *for allowable expenditures*.”<sup>39</sup>

Using employee classification and salary information provided by UC-Davis, we examined senior personnel salaries charged to NSF awards during calendar years 2009 and 2010. We identified 31 UC-Davis employees for whom salaries exceeding two months were charged on 35 different NSF awards. We examined each of those awards to determine whether (1) UC-Davis had disclosed the excess salaries in the respective proposal budgets, (2) UC-Davis justified the excess salaries in the proposal budget justifications, and (3) NSF had specifically approved the excess salaries in the award notices. We found \$884,344 of salaries, \$287,735 of benefits, and \$615,603 of associated indirect costs claimed for 31 employees on 35 NSF awards did not comply with the three requirements in NSF policy. (See Appendix B for details of the questioned costs.)

The following table summarizes the questioned salaries claimed in 2009 and 2010 by number of months in excess of two.

<b>Months Over</b>	<b>Instances</b>	<b>Salary Questioned</b>	<b>Benefits Questioned</b>	<b>Indirect Questioned</b>	<b>Total Questioned</b>
<b>0 to 0.99</b>	26	\$69,628	\$19,960	\$47,033	<b>\$136,621</b>
<b>1 to 1.99</b>	15	\$141,964	\$40,977	\$96,108	<b>\$279,049</b>
<b>2 to 2.99</b>	9	\$137,146	\$46,586	\$96,503	<b>\$280,235</b>
<b>3 to 3.99</b>	6	\$126,233	\$43,526	\$89,565	<b>\$259,324</b>
<b>4 to 4.99</b>	4	\$177,829	\$59,190	\$124,729	<b>\$361,748</b>
<b>5 to 5.99</b>	1	\$32,916	\$8,558	\$21,981	<b>\$63,455</b>
<b>6 to 6.99</b>	1	\$41,025	\$13,949	\$29,136	<b>\$84,110</b>
<b>7 to 7.99</b>	2	\$107,624	\$38,996	\$76,243	<b>\$222,863</b>
<b>8 to 8.99</b>	1	\$49,979	\$15,993	\$34,305	<b>\$100,277</b>
	<b>65</b>	<b>\$884,344</b>	<b>\$287,735</b>	<b>\$615,603</b>	<b>\$1,787,682</b>

While NSF’s Award and Administration Guide requires NSF approval for all senior personnel salaries in excess of two months per year, we are particularly concerned about unapproved salaries that exceed three months in a year. Since faculty academic appointments are generally nine months, unapproved charges to NSF that exceed three months in a year could indicate an awardee unreasonably transferring part of its research compensation obligation to NSF without NSF’s approval. These unreasonable charges are shown in the preceding table in “Months Over” rows greater than one and represent 39 of the 65 instances of questioned salaries, accounting for \$1,651,061 of questioned costs.

<sup>38</sup> NSF Award and Administration Guide, Chapter II, Section C.

<sup>39</sup> Ibid. (Emphasis added.)

NSF's salary limitation policy differed in 2008 from the policy in effect for 2009 and 2010. In 2008, NSF's Award and Administration Guide limited salary compensation paid to faculty members during the summer months to two-ninths of their regular annual salaries. The 2008 limitation applied to compensation received from all NSF awards. Although the 2008 guidance did not include a provision for awardees to request NSF approval for summer salaries in excess of the limit, we did not question such salaries if they were disclosed and justified in the proposal budget and specifically approved by NSF in the award notice.

We identified six UC-Davis faculty members for whom 2008 summer salaries exceeding two-ninths of their annual salary rates were charged on 12 different NSF awards. We examined each of the awards to determine whether UC-Davis had disclosed and justified the excess salaries in the respective proposal budgets and NSF had specifically approved the excess salaries in the award notices. We found that \$22,945 — \$13,459 of salaries, \$1,636 of benefits, and \$7,850 of associated indirect costs — claimed for five UC-Davis faculty members on 10 NSF awards exceeded the limit and were not properly justified by UC-Davis and approved by NSF. (See Appendix B for details of the questioned costs.)

#### *UC-Davis Response*

UC-Davis disagreed with all of the questioned salary, benefits, and associated indirect costs and cited four main points.

- UC-Davis disagreed with OIG's application of the two-month salary limitation to a number of NSF awards for which proposals were submitted prior to the January 5, 2009 effective date of the Award and Administration Guide. The university's response states, "UC Davis believes that NSF-OIG audited the senior personnel salaries against a policy that was not in place at the issuance of the awards and was therefore not applicable and should not have been applied to these salaries." According to UC-Davis, awards based on proposals submitted prior to January 5, 2009, should be evaluated against the prior criteria, which limited summer salaries for faculty to two-ninths of the annual rate.
- UC-Davis's second point of contention involved the types of employees whose salaries were questioned. UC-Davis identified 30 employees who were serving in positions that did not qualify to receive summer compensation. Although the questioned costs were claimed during 2009 and 2010, they related to awards with proposals submitted prior to January 2009 and UC-Davis asserts they should have been examined under the prior salary limitation that applied only to faculty salaries during the summer. These 30 employees accounted for \$1,558,066 of the questioned costs.
- UC-Davis identified four employees who worked on awards with proposals submitted after January 5, 2009. UC-Davis claimed these salaries met the three allowability requirements included in NSF's Award and Administration Guide and should not have been questioned. These four employees accounted for \$169,548 of the questioned costs.
- UC-Davis believes the remaining \$60,068 questioned for 2009 and 2010, and all of the 2008 questioned salaries should be allowable under rebudgeting authority granted by NSF. The university's response highlighted language in the Award and Administration Guide that requires action if there is a substantial decrease in time a PI or co-PI will spend on a project, but stated there is no similar language in this particular section addressing minor increases in time after an award is made.

Finally, UC-Davis commented on OIG's draft report finding of a possible change in the scope of an award that did not appear to receive the proposed level of commitment from senior university personnel. UC-Davis stated there was extensive NSF involvement and communication throughout the award and that annual reports to NSF further demonstrated the awardee's senior personnel commitments to the project. We accept UC-Davis's response and have removed this finding and the associated recommendation from the final audit report.

#### *OIG Comments*

We continue to question \$1,787,682 of salaries, benefits, and associated indirect costs claimed during 2009 and 2010. Our draft audit report had questioned \$23,191 of salaries and associated costs claimed during 2008; however, we identified \$246 questioned for two employees that were the result of regular salary increases and not unapproved summer salaries. We removed the \$246 and continue to question the remaining \$22,945 claimed in 2008. Our responses to UC-Davis's contentions follow.

- Regarding UC-Davis's contention that the January 5, 2009 revision to the Award and Administration Guide only applies to awards based on proposals submitted after that date, we point to the language of the document itself. In the section, *Summary of Significant Changes*, the Guide states, "[The section establishing requirements for allowable salaries] has undergone a major revision of NSF's salary reimbursement policy. In general, the Foundation will now limit salary compensation for senior project personnel to no more than two months of their regular salary in any one year." The Guide further states, "This Guide is applicable to NSF grants and cooperative agreements, unless noted otherwise in the award instrument." Given NSF's statements that the guide is applicable to *awards* and that NSF *will now limit salary compensation* in accordance with policy, we concluded that the January 2009 revision is applicable to awards in effect on January 5, 2009, regardless of their proposal submission dates.
- UC-Davis's second point of disagreement is based on application of the pre-January 2009 limitation to certain types of employees' salaries during 2009 and 2010. As stated above, the language contained in the January 2009 revision of the Award and Administration indicates it was applicable to awards in effect at that time. UC-Davis's assertion that the 30 questioned salaries should be allowable does not have a basis in NSF policy.
- We reviewed the award documents for four questioned salaries UC-Davis claimed were approved in accordance with the Award and Administration Guide. We found none of the four met the requirement for specific approval in the award notice. As stated above, NSF defines three distinct components of an award instrument, two of which are the award notice and the award budget. While the four salaries in question were included in the award budgets, there was no specific approval in the respective award notices. The Award and Administration Guide states that approval for senior personnel salaries exceeding two months must be specifically given in the award notice.
- We disagree with UC-Davis's assertion that \$60,068 of the questioned salaries in 2009 and 2010, and all of the 2008 questioned salaries, should be allowable under rebudgeting authority. As stated above, an awardee cannot transform costs from unallowable to allowable simply by moving funds from other budget categories to pay them. UC-Davis did not provide documentation of NSF's approval, in the respective award notices, of the

questioned salaries.

---

**Recommendations**

---

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) request UC-Davis to:

1. Repay to NSF the \$2,330,503 of questioned costs claimed by UC-Davis during the audit period. Specifically:
  - a. \$382,646 of equipment charges for which UC-Davis could not document allowability on NSF awards;
  - b. \$83,488 of questionable cost transfers;
  - c. \$39,578 of questioned entertainment costs;
  - d. \$14,164 of questioned purchase card transactions; and
  - e. \$1,810,627 of salary, benefits, and associated indirect costs for faculty and other senior personnel that were unreasonable and exceeded NSF limitations.
2. Strengthen the administrative and management controls and processes over equipment costs charged to NSF awards to ensure costs are reasonable and necessary to accomplish the scope and objectives of the NSF award(s) to which they were charged.
3. Strengthen the administrative and management controls and processes over cost transfers to ensure costs charged to NSF awards reflect reasonable and necessary costs of the award and that the transfers complied with UC-Davis policies and procedures.
4. Strengthen accounting procedures in cases where Federal and nonfederal funds are applied to a pool of transactions to clearly demonstrate which costs are paid with Federal money and reduce concerns that Federal funds were used for unallowable purposes.
5. Strengthen the administrative and management controls and processes over allocation of senior personnel salaries to NSF awards to ensure compliance with NSF's published limitations.

---

## Appendix A: UC-Davis Response to Draft Audit Report

---

### UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

OFFICE OF RESEARCH

1850 RESEARCH PARK DRIVE  
DAVIS, CALIFORNIA 95618

**CINDY M. KIEL**  
EXECUTIVE ASSOCIATE VICE CHANCELLOR FOR RESEARCH

TELEPHONE: (530) 754-7944

May 31, 2016

Daniel J. Buchtel  
Director, Western External Audit  
National Science Foundation, OIG  
999 18th Street, Suite 1155  
Denver, CO 80202

Re: Audit of Incurred Costs Claimed on National Science Foundation Awards  
For the period January 1, 2008 through December 31, 2010

Dear Sir,

This response is submitted on behalf of The Regents of the University of California for its Davis campus (UC Davis). Specifically, we are responding to the National Science Foundation Office of Inspector General (NSF-OIG) draft audit report entitled "University of California-Davis, Audit of Incurred Costs Claimed on National Science Foundation Awards for the Period January 1, 2008 through December 31, 2010." Of the approximately \$142 million in NSF award expenditures reviewed, the auditors have questioned \$2,497,087 in costs. UC Davis, as described below and as supported by prior submissions to NSF-OIG, believes that all but \$20,156 is reasonable and allowable under NSF policies and the terms and conditions of the grants issued. To facilitate your review, we have provided a response to each finding.

**Finding 1: Salary and Benefits Were Unreasonable and Exceeded NSF Limits**

NSF-OIG questioned \$1,810,873 of salary (\$897,949), benefits (\$289,387), and associated indirect costs (\$623,537) claimed by UC Davis for faculty members and other senior project personnel that exceeded NSF policy limits.

**Finding 1 Response:**

The NSF-OIG erroneously applied AAG 091 guidance (which expanded the 2/9ths salary rule to academic year salaries instead of just summer salaries and which expanded the 2/9ths rule from "individual investigators" to all senior personnel) to projects that were proposed and awarded under the earlier AAG 081 terms that did not contain these restrictions.

The NSF-OIG has questioned \$1,810,873 of questioned salary, fringe benefit and indirect costs associated with faculty members and other senior personnel that exceeded the NSF two month salary limitation. NSF has split this finding into the following two subsets:

- 2008 questioned salaries of \$13,605, fringe benefits of \$1,652, and \$7,934 of indirect costs.
- 2009-2010 questioned salaries of \$884,344, fringe benefits of \$287,735, and \$615,603 of indirect costs.



Projects proposed prior to January 5, 2009 were subject to the AAG 081 that provides the following guidance for the charging of academic salaries for NSF grants (Section V.B1(a):

- (a) *Academic Year Salaries.* To be based on the individual faculty member's regular compensation for the continuous period which, under the policy of the institution concerned, constitutes the basis of his/her salary. Except as provided in AAG Chapter V.B.6b, charges to Federal grants, irrespective of the basis of computation, will not exceed the proportionate share of the base salary for that period.
- (b) *Periods Outside the Academic Year.* During the summer months or other periods not included in the period for which the base salary is paid, salary is to be paid at a monthly rate not in excess of the base salary divided by the number of months in the period for which the base salary is paid. NSF policy on funding of summer salaries (known as NSF's two-ninths rule) remains unchanged: proposal budgets submitted should not request, and NSF-approved budgets will not include, funding for an individual investigator which exceeds two-ninths of the academic year salary. This limit includes summer salary received from all NSF-funded grants.

NSF-OIG sites the change in the NSF Award and Administrative Guide 091 (AAG 091) which became effective January 2009 as the policy change that led NSF-OIG to significantly increase the questioned personnel costs between the 2008 and the 2009-2010 findings. The significant change in the AAG 091 is published by NSF as the following:

**“Chapter V – Section B.1, Salaries, Wages and Fringe Benefits,** has undergone a major revision of NSF’s salary reimbursement policy. In general, the Foundation will now limit salary compensation for senior project personnel to no more than two months of their regular salary in any one year. This limit includes salary compensation received from all NSF-funded grants. This change moves away from the concept of summer salary and allows for reimbursement of two months of salary per year whenever appropriate during the year.”

Based in the published NSF implementation of the AAG 091<sup>1</sup> the change in senior personnel salary was effective for new proposals submitted on or after January 5, 2009. However, NSF-OIG interpreted the implementation date of January 2009 for all expenditures, regardless of when the proposal was submitted and awarded, and not only for new awards with proposals submitted after the implementation date of January 5, 2009.

Of the 2009-2010 questioned salaries, 30 of the 47 award/ID combinations had proposals submitted prior to the AAG 091 implementation date of January 5, 2009 and were therefore granted to UC Davis under the previous budget limitation of 2/9ths summer salary for faculty. As no amendments were issued by NSF to change the budgeting terms of these existing awards and based on the prospective nature of the implementation of NSF AAG 091, UC Davis believes that NSF-OIG audited the senior personnel salaries against a policy that was not in place at the issuance of the awards and was therefore not applicable and should not have been applied to these salaries. As such, UC Davis disagrees with this finding.

#### **Awards with questioned costs issued before AAG 091**

Based on the award terms and conditions related to the faculty summer salary budgeting limitation that was in effect at the issuance of the award/ID combinations questioned in

---

<sup>1</sup> [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=aag091&org=NSF](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag091&org=NSF)

2009/2010 salary findings, UC Davis disagrees with the following questioned salaries on awards issued before AAG 091 in January 2009:

# award/ID combinations		S&W	FB	F&A	Total
22	Academic Staff & Project Scientists	508,416	174,933	358,481	1,041,830
6	Fiscal Year Faculty	248,080	81,515	173,162	502,757
2	Visiting Faculty	8,780	88	4,611	13,479
30	Total	765,276	256,536	536,254	1,558,066

*Academic Staff & Project Scientists*

NSF-OIG identified 22 non faculty employees that charged more than 2 months salary to the awards. UC Davis considers these charges allowable as these awards were not issued under the senior personnel salary limitation in AAG 091. These employees are considered senior personnel as they are key personnel to the project, but as fiscal year employees they are not eligible to earn summer salary. In addition, 18 of the 22 award / Employee ID combinations had similar levels of salary charged to the same awards during the 2008 calendar year and were not questioned by NSF. This further supports the fact that UC Davis was in compliance with the administrative policy in effect when the awards were issued prior to AAG 091.

*Fiscal Year Faculty*

NSF-OIG identified 5 Medical Compensation Faculty and 1 Adjunct Faculty that are fiscal year appointments and are not eligible to earn summer salary. The charges to NSF were based on the NSF academic year policy as the basis of the salary is a fiscal year. NSF allowed similar level of charges for all individuals in 2008 calendar year covered under audit. Again supporting UC Davis compliance with the NSF administrative policies in place when the questioned awards were issued.

*Visiting Faculty*

NSF-OIG identified 2 visiting faculty who were appointed temporarily for 6 months. Per UC Policy the salary of a visiting faculty appointment shall be determined according to the special circumstances in which they are hired. These two appointments were paid a flat nominal amount for the work on the NSF awards. The visiting faculty did not receive any summer salary, and the rate of pay for the visiting faculty was reasonable and compliant with UC Policy and AAG 081 which states: "All remuneration paid currently or accrued by the organization for employees working on the NSF-supported project during the grant period is allowable to the extent that: (a) total compensation to individual employees is reasonable for the work performed and conforms to the established policy of the organization consistently applied to both government and non-government activities;".

UC Davis believes that the salary charged to the NSF awards for the visiting faculty conforms to the NSF requirements that the total compensation to individual employees is reasonable for the work performed and conforms to the established policy of the organization.

**Awards subject to AAG 091**

NSF-OIG asserts that UC Davis did not receive specific NSF approval for senior personnel salaries in excess of two months per employee per year. As indicated above most of the questioned awards were not subject to the revised senior personnel salary requirements in AAG 091. The following four individuals, where UCD received funding in the award document,

make up \$169,548 or 93% of the questioned salary that was applicable to the AAG 09-01 budgeting rules.

# award/ID combinations	S&W	FB	F&A	Total
4 Awarded Salaries	85,088	25,817	58,643	169,548

#### *Awarded Salaries*

We identified 4 senior personnel that were not faculty in the awards that were subject to AAG 091. UCD disagrees with NSF-OIG statement that UCD did not follow the three rules for approving senior personnel salaries over 2 months a year. UCD provided NSF-OIG documentation on September 15, 2015 that had proposal budgets, proposal justifications, and official NSF approved award notices that awarded more than 2 months of salary for the 4 Co-PIs (that are not faculty). This documentation shows that NSF awarded and funded UCD for these additional months of salary. Therefore UCD disagrees with this finding that these salaries over 2 months were not disclosed in the proposal budget, justified in the budget justification, and specifically approved by NSF in the award notice.

#### **Rebudgeting Authority**

NSF's long standing policy provides recipients with the ability to rebudget, when, in the course of performing a research project, certain aspects of the project change after the initial award is made and a reclassification of budgeted funds is necessary in order to accomplish the research objectives. Specifically, the AAG provides this rebudgeting flexibility in section II.C.2.a:

*If required in furtherance of the project, the grantee is authorized to transfer funds from one budget category to another for allowable expenditures. Exhibit II-1, however, highlights certain budget changes that may require prior NSF approval.*

Exhibit II-1 requires that changes in PI or senior personnel time devoted to the project require NSF approval if the PI or senior personnel significantly reduces the time devoted to a project. This exhibit does not address minor increases in time after an award is made.

*If the PI/PD or co-PI/co-PD will devote substantially less time to the project than anticipated in the proposal, (defined in the Research Terms and Conditions (RTC) and NSF Grant Conditions (GC-1) as a reduction of 25% or more in time) he/she should consult with appropriate officials of the grantee organization and with the NSF Program Officer. If either determines that the reduction of effort will substantially impair the successful execution of the project, the Program Officer will consult the NSF Grants and Agreements Officer.*

UC Davis strongly believes that all the salaries listed below that are above the 2 months are allowable and fall within the University's rebudgeting authority granted by NSF and the Research Terms and Conditions and do not represent excessive rebudgeting. The total salaries that were increased from the standard 2 months was \$47,585 for 25 individual employee award combinations for an average of \$1,900 per award.

# award/ID combinations	S&W	FB	F&A	Total
12 2008 Salaries	13,605	1,652	7,934	23,191

13	2009 & 2010 Salaries	33,980	5,382	20,706	60,068
25	Total	47,585	7,034	28,640	83,259

**NSF-OIG Recommends:**

- UC Davis reexamine its budgeting for NSF Award No. 0120999 to determine whether UC Davis provided the level of senior personnel commitment NSF expected based on the revised proposal budget.

**UC Davis Response:**

Award 0120999 was a cooperative agreement establishing and funding the UC Davis Center for Biophotonics in Science and Technology (CBST) that spanned more than ten years. The award ended November 2013. As expected with a cooperative agreement, there was extensive NSF involvement and communication during the project. The annual financial reports submitted to and approved by NSF provided additional demonstration of the senior personnel commitments supporting the CBST project. We are confident that UC Davis achieved the expected level of senior personnel commitment and NSF is fully aware of these commitments and would concur with this assertion.

- UC Davis strengthen the administrative and management controls and processes over allocation of senior personnel salaries to NSF awards to ensure compliance with NSF's published limitations.

**UC Davis Response:**

UC Davis understands and has controls and processes in place to comply with the NSF policy that limits salary compensation for senior personnel in a proposal to no more than 2 months unless additional budget justification is provided. However the majority of the questioned costs in this finding occurred on awards issued prior to the NSF implementation of the Senior Personnel rule. In addition, the remaining questioned costs in this finding are related to post-award activity where allowable rebudgeting was necessary. NSF's policy office, through FAQs, has clarified that grantees have the authority to rebudget additional senior personnel salaries without NSF approval as long as there is not a change in the scope of the award.

UC Davis believes we have the effective controls and processes in place. Nonetheless, we are prepared to work with the Cost Analysis & Audit Resolution Branch of NSF to determine if any inappropriate costs have been claimed and, if so, whether UC Davis needs to modify our administrative and management controls over senior personnel salaries in light of NSF policy and FAQ guidance on these matters.

**Finding 2: Questioned Equipment Charges**

NSF-OIG questioned equipment charges of \$399,201 on four NSF awards. Specifically questioned were \$204,907 for which no equipment costs were included in the approved budgets, and \$194,294 for equipment charged within 60 days of the awards' expiration dates or after awards expired.

**Finding 2 Response:**

UC Davis believes that the questioned equipment costs were reasonable and beneficial to the effective performance of the applicable NSF awards. Each purchase must be evaluated based on

the particular facts and circumstances in order to confirm that the expenditures are necessary and reasonable for the administration and performance of the award, per 2 CFR 220. Section C. COST PRINCIPLES FOR EDUCATIONAL INSTITUTIONS (OMB CIRCULAR A-21) Basic Consideration.

UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the Principal Investigator (PI) who best understands the intended use of the equipment and allocation of use across sponsored and non-sponsored projects. It is the PI who, based on this specific knowledge, is uniquely positioned to determine how the equipment costs should be allocated and to identify when changes in the award spending plan represent a change in scope. If and when a change of scope may result from a change in the spending plan, UC Davis will work with our PIs to obtain the necessary prior approvals from sponsoring agencies. UC Davis has written guidance on when it is necessary to submit a revised statement of work to the sponsor and how that revised statement of work should be submitted.

UC Davis requested that each investigator and his/her support staff provide the detailed justification for why those costs questioned by this audit did indeed benefit the referenced project and why these costs were necessary for the performance of the award. Summary justifications for these equipment purchases and charging allocations were provided to the auditors and we believe this supplemental detail supports the reasonableness and allowability of those charges.

UC Davis provides the additional following comments on the specific questioned equipment:

**Equipment Charges Not Included in Award's Approved Budget**

UC Davis disagrees with the questioned costs of \$204,907 for equipment that was not included in the NSF approved budget.

- *NSF-OIG questioned \$188,352 for equipment and an associated maintenance agreement charged to an award for equipment that was not included in the NSF approved budget.*

According to the PI, the need for this instrument was not known at the time of the grant proposal. It became apparent during the project that there was a technological bottleneck and in order to obtain results and further the awarded scope of work, purchase of the equipment became necessary. The PI asserts the scope of the project did not change and that the equipment acquisition allowed for the project to be conducted in a much more efficient and meaningful manner, addressing the project objectives while retaining the original budget scope and aims, and greatly increasing the impact of the research.

UC Davis has procedures in place to ensure significant rebudgeting is compliant with sponsor requirements and as evidence provided during the audit, UC Davis Sponsored Projects inquired about a potential change in scope and required the NSF Program Officer to respond in writing to this fact before proceeding with the reallocation of funds and the acquisition of the equipment.

This is consistent with NSF Award and Administration Guide, Chapter II, Section B.1.b *that allows researchers to pursue interesting and important leads that arise during research, but*

*NSF also requires that significant changes be reported to the NSF Program Officer. This reporting requirement affords the Program Officer the opportunity to evaluate the proposed expansion and ensure that it is warranted.* In compliance with the above guidance, the PI verbally discussed the reallocation of funds for this project with the NSF program officer (Dr. Mary Chamberlin) and received written concurrence with this plan, which we provided to NSF-OIG. The NSF Program Officer did not indicate that this was a change in scope and advised the PI to “check with your SRO to make sure it is OK with them. Moving funds into the equipment line may mean some recalculation of indirect costs.” We performed our due diligence and determined this equipment purchase and the associated rebudget of funds was not a significant change in project scope or methodology and therefore did not required the NSF Grant Officer’s approval.

NSF-OIG also questioned whether this purchase *provided a direct benefit to completing the research project when UC Davis removed the funding for the researchers who were supposed to conduct that research.* According to the PI, the researchers and students completed the project using the new equipment and were paid on University funds. We conclude that the purchase of the equipment was a direct benefit to the project and does not represent a change in scope. NSF received the additional benefit of institutional voluntary support for personnel efforts in furtherance of the projects’ aims.

- *NSF-OIG questioned \$16,556 of equipment and associated freight costs, which were not included in an approved award budget.*

This purchase represented 3.2% of the budget and does not represent a significant change in scope. The PI explained to the auditors the purchased equipment provided a range and accuracy greater than the equipment that was already in the lab and was essential for carrying out the pump-probe experiments that were at the heart of the proposed work. The PI used her rebudgeting authority to adjust to the ever-changing nature of research and technology. We provided NSF-OIG the invoice for the Air Bearing purchased. Furthermore, the progress report submitted by the PI references the new Air Bearing “*We have also improved the set-up by changing the delay stage. We incorporated a new translation stage with a longer travel distance and fast speed so that we can speed up the data acquisition.*” UC Davis maintains that this is an allowable and reasonable use of awarded funds that did not result in a significant change of scope or method but that reasonably responded to technology advances as the project proceeded.

**Equipment Charges in Final 60 Days of Award Periods or After Expiration**

UC Davis disagrees with the questioned costs of \$194,294 for equipment purchased within 60 days of the end of the award or after the award expired.

- *NSF-OIG questioned \$131,789 and \$53,719 for equipment purchases charged to the same NSF award with final acceptance and/or use after the award expired.*

The effort to build the Large Synoptic Survey Telescope (LSST) is a public/private interagency project and the funding and involvement from NSF has been paramount. The LSST is a multi-phased project and NSF award #0441069 supported work necessary in the initial development phase. As described by the PI and in the award’s scope of work, the

overall goals of this award were to develop prototype CCD detectors and the related test facility for use in subsequent phases of the LSST project. The questioned equipment purchases were all components of the test facility whose final assembly was impacted by vendor delays. The fact that these components arrived after the grant expired in no way negates the usefulness or benefit to the project, since the grant was to build a test facility for future use. As further evidence that this purchase was appropriate for the nature of the project, UC Davis provided a statement to the auditors from the current LSST NSF Program Officer who stated "We have always felt that equipment purchased late in an award was acceptable as long as it was used for a continuation of the project and connected research....I can state that to the best of my knowledge as NSF program officer for LSST since the time of this award, all equipment continues to be used on continuations of the work for which that award was made, in the context of the larger LSST project."

All of these components were ordered during the project period. Vendor delays with the main component delayed final receipt and assembly of the testing facility until after the project period. Per NSF Award and Administration Guide 602.3 Post-Expiration Costs: *NSF funds may not be expended subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date.... For example, commitment of project funds is valid when specialized (research) equipment is ordered well in advance of the expiration date but where, due to unusual or unforeseen circumstances, delivery of such equipment is delayed beyond the expiration date. The costs of equipment ordered after the expiration date, however, may not be charged to the project.* Additionally, UC Davis has procedures in place to review large equipment purchases made at the end of the award period. Departmental research administrators supporting the PIs review requests for equipment purchases late in the award period to ensure appropriateness and equipment charges are also reviewed by central office personnel during award close-out.

UC Davis maintains its position that these costs were a direct benefit to the NSF award, compliant with all relevant policies, and allowable.

- *NSF-OIG questioned \$8,786 in equipment costs charged after an award.*

Information was provided to NSF-OIG during the audit to support this unique circumstance. The equipment item was a specialty valve ordered in 2007 and due to the vendor's order back log, the item was not expected to ship for 15 months, after the award project period. As this particular pulse valve was essential to complete the experiment in a timely manner, the PI negotiated to "borrow" an identical valve from a colleague with the understanding that the new valve would replace the one borrowed. While this agreement was unconventional, the NSF project benefitted from this arrangement and as such we believe the cost is allowable and allocable to the project.

**NSF-OIG Recommends:**

UC Davis strengthen the administrative and management controls and processes over equipment costs charged to NSF awards to ensure costs are reasonable and necessary to accomplish the scope and objectives of the NSF award(s) to which they were charged.

**UC Davis Response:**

As demonstrated in our comments above, UC Davis has appropriate processes and controls in place over equipment purchases made at the end of an award period and large equipment purchases that could potentially indicate a change in scope. UC Davis believes these controls are efficient and ensure compliance with federal requirements.

**Finding 3: \$182,818 Questioned for Cost Transfers**

NSF-OIG questioned \$182,818 of direct and indirect costs associated with cost transfers. Specifically questioned were \$101,988 of transfers in the final 60 days of awards and \$80,830 of transfers made after awards expired.

**Finding 3 Response:**

UC Davis believes the majority of the questioned cost transfers were allocable, reasonable and beneficial to the effective performance of the applicable NSF awards.

In compliance with the applicable Federal requirements for grants and for the prudent management of all expenditures, UC Davis has appropriate controls for identifying, reviewing, and approving costs charged to NSF awards to ensure allowability, allocability, reasonableness and consistency. Ideally, all costs should be charged to the appropriate federal award when first incurred. However, there are circumstances where it may be necessary to transfer expenditures to a federal award subsequent to the initial recording of the charge to correct an error, to move or split costs into accounts that did not exist when the original transaction was made, or for other reasons associated with a department's financial operation.

UC Davis Policy and Procedure Manual Chapter 330-63 Expenditure Adjustments, Requires that Contracts & Grants Accounting must review and, upon approval, process transfers to Federal and Federal flow-through accounts later than 120 days from the close of the ledger month in which the original charge posts. Department requests for a cost transfer beyond the 120-day period must include an explanation that justifies and supports the circumstances leading to the need for a transfer. *To help ensure compliance with timely transfers affecting federal and federal flow-through funds, system edits in DaFIS prevented transfers of charges TO federal or federal flow-through accounts after the 120-day limit.*

During the course of the audit, justification for the transactions in which UC Davis does not concur with NSF-OIG was provided to the auditors. This included details of allocation methodologies and approaches, and statements from the PIs explaining the benefit to the respective NSF award. It is the PI who is in the best position to understand the intended use of resources on specific projects. We believe this supplemental detail supports the allowability, allocability, reasonableness and consistency of these charges and justifies the circumstances and need for the resulting expense transfer.

**Cost Transfers in Final 60 Days of Award Periods**

UC Davis agrees with \$15,656 (\$10,315 direct and \$5,341) of the \$101,988 questioned costs transfers made in the final 60 Days of award periods. We will remove them from the respective awards and seek guidance from NSF on how to return these funds.



UC Davis disagrees with \$86,332 (\$81,439 direct and \$4,893) of the \$101,988 questioned costs transfers made in the final 60 Days of award period and provides the following additional comments on these specific questioned cost transfers.

- *NSF-OIG questioned \$45,323 in costs transferred.*  
The Institute for Complex Adaptive Matter (ICAM) and The International Institute for Complex Adaptive Matter (I2CAM) is an integrated scientific and educational program including exploratory workshops, symposia, fellowships, and research and educational networks. ICAM/I2CAM activities are supported by the National Science Foundation and contributions from its branch members. We provided the auditors with a timeline identifying the NSF awards that have continuously supported ICAM/I2CAM. Due to the continuous ICAM/I2CAM activity, it became necessary to fund the expenses of several events (exchange awards, schools, travel awards, workshops) that were already approved and scheduled to take place from April 2009 – July 2009 from the new continuation award. An advance account was established in accordance with both institutional policies and federal award terms and conditions for the 90 day pre-award period immediately preceding the effective date of the grant to accommodate charging those costs applicable to that time period and to appropriately transfer costs to the continuation award. We provided many documents to the auditors to support our reasoning and actions. Funding for 3 years was requested (total of \$996,345) for NSF DMR-0747699 title “Institute for Complex Adaptive Matter (ICAM)” – but only one year of funding was received \$322,472. This award was replaced with NSF DMR-0844115 title “I2CAM: International Institute for Complex Adaptive Matter”, and was funded for \$4,800,000, for the period of 8/1/2009-7/31/2014.  
The proposal and budget justification for the NSF awards, along with the site visit reports clearly show that funding was for ICAM and I2CAM events, and that funding was to be split between the NSF funding sources and the ICAM/I2CAM branch contributions.  
The purpose of the NSF award was to facilitate ICAM/I2CAM workshops both domestically and internationally. The costs of sponsoring these workshops that was charged to the NSF award was clearly the purpose of the project and UC Davis maintains its position that these costs transferred to the NSF award were allowable, allocable and reasonable.
- *NSF-OIG questioned \$5,924 in costs transferred and the associated indirect costs.*  
UC Davis agrees with NSF-OIG and will remove these costs from the award.
- *NSF-OIG questioned \$15,000 in costs transferred.*  
UC Davis explained this was ICAM sponsorship of a workshop at UCLA and the cost transfer was the resulting intercampus transfer. Per Circular A-21 Cost Principles for Educational Institutions "If a cost benefits two or more projects or activities in proportions that cannot be determined because of the interrelationship of the work involved, then, notwithstanding subsection b, the costs may be allocated or transferred to benefited projects on any reasonable basis, consistent with subsections d. (1) and (2)." UC Davis provided documentation to the auditors demonstrating a reasonable allocation methodology for supporting the various ICAM workshops in which NSF funding is leveraged with member contributions.

The determination of the one-half of the total commitment split was established in the proposal/budget justification: “Exploratory Workshops: We seek \$120,000 per year to

provide partial support for four workshops that are expected to attract some 200 junior and senior participants, speakers, discussants, chairpersons, and organizers. The net cost of each workshop is estimated to be \$60,000. For each we seek NSF support of half that cost, \$30,000..." For this particular workshop the total allocation was \$30,000, thus the \$15,000 of funding provided from the NSF fund award to UCLA via an intercampus transfer. The remaining \$15,000 was provided from ICAM/I2CAM branch contributions to UCLA. We explained to NSF-OIG that at the time of this award, it was not ICAM's practice to require other UC institutions receiving funding for ICAM workshops to provide receipts to document their expenditures. ICAM is currently coordinating with the UC Davis Sponsored Programs Office and the UC Davis Contracts and Grants Accounting department to establish additional procedures which will require more accountability on the part of sister campus recipients to provide a more detailed audit trail. UC Davis maintains its position that these cost transfers were allowable and reasonable expenses to this award.

The purpose of the NSF award was to facilitate ICAM/I2CAM workshops around the world. The costs of sponsoring these workshops that was charged to the NSF award was clearly the purpose of the project and UC Davis maintains these costs transferred to the NSF award were allowable, allocable and reasonable.

- *NSF-OIG questioned \$5,774 in costs transferred and the associated indirect costs.*  
UC Davis provided the allocation methodology for this cost which was calculated specifically by the dimensions of the project and material used. Removal of the material at completion of the experiment is directly related to this project. We deem this cost to be allowable, allocable, and reasonable.
- *NSF-OIG questioned \$10,563 in costs transferred.*  
The questioned costs represent six individual travel expense claims for workshop participants originally posting into the ledgers in November/December 2008. The subsequent cost transfers occurred in March 2009 which is a reasonable time period in which to make corrections. We provided the auditors with workshop documentation and NSF award budget justification substantiating the benefit of the participant support costs for students and invited speakers participating in several electron crystallography workshops as supported by the NSF award. We consider these costs allowable and compliant with policy and award terms and conditions.
- *NSF-OIG questioned \$1,120 in costs transferred.*  
We provided documentation and the following explanation to the auditors:  
The sole purpose of this award was to support the FRONTIERS OF ELECTRON MICROSCOPY IN MATERIALS SCIENCE (FEEMS) 2007 CONFERENCE, and travel reimbursement #011948886 was for a graduate student attending this conference. During award closeout it was discovered this travel had been posted to another account in error and the cost transfer was made to correct this error. UC Davis maintains its position that this was an allowable and allocable expense.
- *NSF-OIG questioned \$4,391 in costs transferred and the associated indirect costs.*

UC Davis agrees with NSF-OIG and will remove these costs from the award.

- *NSF-OIG questioned \$2,354 in costs transferred and the associated indirect costs.*  
It is the PI who best understands the intended purpose of the travel and its benefit and allocation to sponsored and non-sponsored projects. The PI explained that the Business Purpose also included “undergraduate field trips.” Goals of the project included increasing diversity within the geosciences at UC Davis and improving its mentoring program. The idea was to foster mentorship through a camp-style field experience and this trip was taken to check out potential sites of geologic interest, assess camping facilities, possible routes, and estimate costs. This explanation and supporting travel documentation was provided to the auditors. UC Davis maintains its position that this was an allowable expense and the transfer was appropriate.
- *NSF-OIG questioned \$1,305 in costs transferred and the associated indirect costs.*  
First, we want to correct NSF-OIG and state that no indirect costs are associated with graduate student fees and benefits transferred to this NSF project. The cost transfer was necessary to correct an error for student fees and benefits that were erroneously omitted from the salary expense. UC provided documentation to the auditors and we maintain our position that this as an allowable expense and the transfer was appropriate.

**Cost Transfers After Awards Expired**

UC Davis disagrees with the \$80,830 (\$52,266 direct and \$28,564) of questioned cost transfers made after the awards expired and provides the following comments on these specific questioned cost transfers.

- *NSF-OIG questioned \$15,194 in costs transferred and the associated indirect costs.*  
The PI working with his administration team stated that every effort was made to complete this research project on budget. Towards the end of the project it was difficult to determine the exact amount available due to the late receipt of invoices from the subcontractor. Acting proactively to avoid being overdrawn, expenditures supporting the project were charged to the PI’s unrestricted start-up funds instead of the project. Near the end of the grant, when the balance of funds became more apparent, appropriate charges were transferred from the PI’s unrestricted funds to the project.  
  
This project involved considerable cloning and sequencing. The questioned costs were stains, cloning and sequencing kits necessary to conduct the research. Their consistent use and purchase throughout the project was documented in a history provided to the auditors. UC Davis believes that this information supports the appropriate allocability of the transferred costs charged to the NSF award.
- *NSF-OIG questioned \$9,657 in costs and associated indirect costs removed from an award.*  
In response to NSF-OIG inquiries about whether NSF received the appropriate credits related to this cost transfer, UC Davis provided to the auditors a walk through of our NSF Cash Reimbursement Request process and supporting documentation demonstrating that NSF received credits as reported in our financial information system. This included a

reconciliation of UC Davis ledger balances from the financial information system to the Federal Cash Transaction report numbers supported by the Federal Financial Reports uploaded to NSF via FastLane. During the timeframe of this audit, funds were requested from NSF in aggregate, netting all award debits and credits together into a single sum. Additionally, UC Davis does not report or request reimbursement in excess of the approved award amount, as demonstrated in the documentation.

Based on the documents previously provided, the amount reported to NSF on this award for the quarter July – September 2010 was \$250,355.93. This was the net expense incurred for the period which included the questioned cost transfer of \$9,657. To further illustrate this, we are providing a copy of the award's Transaction Listing from our financial information system for the quarter, listing all debit and credit entries posted to the award.

- *NSF-OIG questioned \$9,197 in costs transferred and the associated indirect costs.*  
UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the PI who best understands the intended use of the item and allocation of use across sponsored and non-sponsored projects. UC Davis provided the PI's explanation that this expense was a kit to clone the coding regions of 3 Kinases and one phosphatase that are the focus of this study funded by NSF. This item was essential to the project and it was necessary to transfer the cost to the new project where this cloning occurred.

NSF received the credits resulting from these cost transfers via the net cash requests made on 11/04/10 and 11/29/10. To demonstrate the return of these credits to NSF, UC Davis provided the appropriate Weekly Cash Draw report, supporting calculations and system reports to confirm the adjustments were included, and the FastLane Cash Request Details.

- *NSF-OIG questioned \$7,559 in costs transferred and the associated indirect costs.*  
In response to NSF-OIG inquiries about whether NSF received the credit resulting from the cost transfer, UC Davis provided to the auditors the same reconciliation and supporting information as described in the previous finding and maintains that NSF received all appropriate credits.
- *NSF-OIG questioned \$4,141 in costs transferred and the associated indirect costs.*  
In response to NSF-OIG inquiries about whether NSF received the credit resulting from the cost transfer, UC Davis provided to the auditors the same reconciliation and supporting information as described in the previous finding and maintain that NSF received all appropriate credits.

Based on the documents previously provided, the amount drawn from NSF on this award for the quarter October – December 2008 was a credit of (\$7,097.86). This was the net expense incurred for the period including the questioned cost transfer of \$4,141. To further illustrate this, we are providing a copy of the award's Transaction Listing from our financial information system for the quarter listing all debit and credit entries posted to the award.

- *NSF-OIG questioned \$3,518 in costs transferred.*

UC Davis provided this detailed explanation to the auditors: This was an NSF DDIG, (doctoral dissertation improvement grant) award. The faculty mentor is the PI, and the award is to support the dissertation research for a graduate student who is the Co-PI. The PI's lab had been doing vast amounts of DNA sequencing at the UC Davis Genome Center for a specific sponsored project. The Co-PI turned in sequencing for his dissertation project to the Genome Center. However, because the Co-PI was a group member of the PI's lab, the dissertation sequencing was charged in error to the other sponsored project. During closeout of the DDIG award this error was discovered and the cost transfer made to correct this error. This cost is allowable and allocable.

- *NSF-OIG questioned \$3,124 of indirect costs transferred.*  
The questioned indirect costs were part of a payroll adjustment made during our award financial closeout review. This process took place after the award was financially closed in FastLane and therefore no longer appeared in our Federal Financial quarterly report. These funds were returned to NSF as part of UC Davis's 7/17/09 net cash reimbursement request made via FastLane. We are providing additional documentation to support our calculation of this cash request and to demonstrate the inclusion of this questioned credit.
- *NSF-OIG questioned \$3,000 in costs transferred and the associated indirect costs.*  
In compliance with A-21, UC Davis utilizes a *Plan Confirmation for payroll distribution*. Under this method, the distribution of salaries and wages of professorial and professional staff applicable to sponsored agreements is based on budgeted, planned, or assigned work activity, updated to reflect any significant changes in work distribution. When a significant change from the planned distribution occurs, a cost transfer is completed to reflect this change in activity, as was the case here. A salary transfer was made and subsequently, this related fringe benefit transfer was necessary. Due to a system limitation at the time, whereby the system truncated the benefit portion of payroll transfers greater than \$999.99 by removing anything in the "thousand" column, a separate journal entry was needed to transfer the remaining fringe benefits. UC provided documentation to the auditors supporting this allowable expense and appropriate transfer.

Additionally, we want to correct NSF-OIG and note that no indirect costs are associated with the graduate student fees transferred.

**NSF-OIG Recommends:**

UC Davis strengthen the administrative and management controls and processes over cost transfers to ensure costs charged to NSF awards reflect reasonable and necessary costs of the award and that the transfers complied with UC Davis policies and procedures.

**UC Davis Response:**

UC Davis' system of controls are designed to be effective and efficient, providing reasonable assurance of compliance. UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the PI who best understands the intent of the expenditure and allocation of the use across sponsored and non-sponsored projects. Additionally, UC Davis published a Guide to Research Compliance to further assist PIs and their support staff in award administration. This guide is

continuously updated and serves as a supplement to policies, regulations, and the campus offices charged with supporting the UC Davis faculty.

The auditors were provided with details of allocation methodologies and statements from the PIs substantiating the benefit to the respective NSF awards for those questioned costs with which UC Davis disagrees. We believe UC Davis has adequate controls and processes to ensure costs transferred to or from federal awards comply with UC Davis policies and federal requirements, and the information provided to NSF-OIG demonstrates these costs were reasonable and necessary costs of the award. UC Davis will work with the Cost Analysis & Audit Resolution Branch within the Division of Institution and Award Support of the NSF to determine if any adjustments need to be made to administrative and management controls.

**Finding 4: \$68,162 of Questioned Entertainment and Supplies Costs**

NSF-OIG questioned \$68,162 (\$53,548 direct and \$4,614 indirect) entertainment and supplies costs.

**Finding 4 Response:**

UC Davis disagrees with \$68,162 of the questioned entertainment and supply costs and provides the following comments:

Based on OMB Circular A-21 Cost Principles for Educational Institutions, grantees should ensure that costs charged to a sponsored research agreement are allowable, allocable, and reasonable. UC Davis' system of controls is designed to be effective and efficient, providing reasonable assurance of compliance. Each financial transaction charged against a sponsored research award is evaluated against these three concepts.

UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the Principal Investigator (PI) who best understands the intent of the expenditure and allocation of use across sponsored and non-sponsored projects. PIs work with research administrators to ensure costs are allocated appropriately in our financial system. We provided information to the auditors that supports the allocation of the questioned costs by means of cost specific allocations and reasonable basis explanations. Per OMB A-21 Cost Principles, a cost that benefits two or more projects or activities in proportions that cannot be readily determined may be allocated on any reasonable basis. When NSF award goals and the actions taken to achieve these goals are taken into account, the questioned entertainment and supply costs are reasonable.

- *NSF-OIG questioned \$39,578 of entertainment costs.*  
As previously explained, the Institute for Complex Adaptive Matter (ICAM) and International Institute for Complex Adaptive Matter (I2CAM) is an integrated scientific and educational program including exploratory workshops, symposia, fellowships, and research and educational networks. ICAM/I2CAM activities are supported by the National Science Foundation and contributions from its branch members. We provided the auditors with a timeline identifying the NSF awards that have continuously supported ICAM. The basis of the split funding on the Entertainment and Supply invoices in question was due to the NSF funding being leveraged with the Branch Contribution Funding. The budget justification for

NSF award 0747699 echoes this, "For each [workshop] we seek NSF support of half that cost"

This was a reasonable allocation consistent with Circular A-21 Cost Principles for Educational Institutions "If a cost benefits two or more projects or activities in proportions that cannot be determined because of the interrelationship of the work involved, then, notwithstanding subsection b, the costs may be allocated or transferred to benefited projects on any reasonable basis, consistent with subsections d. (1) and (2)."

UC Davis provided documentation to the auditors demonstrating a reasonable allocation methodology for supporting the various ICAM/I2CAM workshops in which NSF funding is leveraged with branch contributions.

NSF-OIG also questioned \$320 in lodging costs of a conference attendee who arrived two days prior to the start of the conference. This particular conference attendee was the IT support person and it was necessary for them to have an early arrival in order to make changes to the website and prep the IT support for the conference. Unfortunately, the vendor did not honor the conference lodging rates for these two nights prior to the start of the conference and a higher rate was paid, however, given the nature of the circumstances, this is deemed to be a reasonable and allowable cost.

We are acutely aware of the restrictions regarding alcohol being charged to NSF awards and we maintain our position that these costs were allocated and contained within the portion of expense funded by the branch contributions which does allow alcohol and not specifically allocated to NSF funds.

- *NSF-OIG questioned \$23,799 of entertainment costs.*  
Training the next generation of scientists and engineers interested in biophotonics was a major component required by NSF who commissioned and funded the UC Davis Center for Biophotonics Science and Technology (CBST). The CBST education program provided many opportunities to introduce biophotonics to students from K-12 to post-doctorate. One initiative was CBST's Summer Internship Program for Undergraduate students which included attending the CBST Annual Retreat. This provided an opportunity for students to meet and network with the community of CBST faculty and thought leaders.

UC Davis provided the Retreat Master File to the auditors which includes details of retreat attendees and to what funding source their individual costs were charged. Per the Retreat Master File, 38 attendees had costs charged to the NSF award Accts ADSLAND, EDUIPRM, ARPARTP. The majority of these attendees were students who incurred a two-day total of \$518. This is consistent with the \$259 double occupancy daily rate per the Business Agreement (provided) between UC and the Resort at Squaw Creek. As described in the agreement the \$259 daily cost includes \$107 per person double occupancy room rate, \$110 complete meeting packing (CMP included 3 meals, snacks, meeting facilities and services) and \$42 taxes and service fees. Given the fact that the retreat meeting facility costs were included in this daily rate, we believe the costs were reasonable and consistent with GSA

lodging and M&IE rates for the area [2010 Tahoe City \$98/\$61. 2010 South Lake Tahoe \$126/\$71].

NSF-OIG also questioned charges incurred more than a week after the event. These charges were the result of reconciliations conducted by both parties. CBST reconciled the original vendor invoice to the Master Retreat File and event receipt tickets to ensure we paid only for actual attendees and likewise the resort reconciled the event with their headcounts to ensure they billed for services provided. Corrections resulted in the revised invoice dated July 23<sup>rd</sup>. Per the Retreat Master File, only one of these late charges was posted to the NSF award and the amount is consistent with other attendees. Further, the agreement with the vendor identified a non-CMP group rate of \$199 plus tax and fees that would be honored three days prior and three days post of the program dates based upon availability. This rate was not applicable to the individual and further supports that this was a charge associated with the retreat.

- *NSF-OIG questioned \$2,409 of entertainment costs and associated indirect costs.*  
While there is no product inventory kept in the PI's lab, the researcher produced a DNA Extraction Log for this project. This document identified more than 1,000 sample extractions completed between September 2008 – June 2009 using extraction kits already in stock in the Conrad Parasitology Lab at UC Davis. Four 250-sample Qiagen DNeasy extraction kits were purchased through the UC Davis central services supply store using NSF funds in August 2009 to replace the kits that were used from the lab. UC Davis provided supporting documentation to the auditors that demonstrate the direct benefit of the extraction kits to the NSF award.
- *NSF-OIG questioned \$1,000 of entertainment costs.*  
UC Davis provided the vendor invoice for the meeting venue to the auditors. The Computational Infrastructure for Geodynamics (CIG) Annual Business Meeting is an open invitation meeting for members of the geosciences community and occurs annually during the AUG Fall Meeting. This meeting occurred December 13, 2010. Per the AGU website, more than 18,400 geophysicists from around the world gathered in San Francisco for the 2010 AGU Fall Meeting. As evidenced by the vendor invoice, refreshments were planned for a group of 50 or more and included hors d'oeuvres, water and soda. A cash bar was included and no alcohol was invoiced. Based on the above facts, this expense is deemed reasonable and allowable.
- *NSF-OIG questioned \$123 of entertainment costs.*  
The food questioned was a benefit to the NSF project titled "Renewable Energy Systems Opportunity for Unified Research Collaboration and Education (RESOURCE)" and was specifically included in the budget justification. This expense is deemed reasonable and allowable.

**NSF-OIG Recommends:**



UC Davis strengthen accounting procedures in cases where federal and nonfederal funds are applied to a pool of transactions to clearly demonstrate which costs are paid with federal money and reduce concerns that federal funds were used for unallowable purposes.

**UC Davis Response:**

UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the PI who best understands the intent of the expenditure and allocation of the use across sponsored and non-sponsored projects.

Detailed information addressing NSF-OIG questions demonstrating allocation methodologies and rationales regarding these questioned costs was provided to the auditors during their fieldwork visits. We believe this supplemental detail provided fully supports the allowability, allocability, reasonableness and consistency of those charges. UC Davis will work with the Cost Analysis & Audit Resolution Branch within the Division of Institution and Award Support of the NSF to determine if any adjustments need to be made and whether UC Davis needs to modify administrative and management controls.

**Finding 5: \$26,113 of Questioned Purchase Card Transactions**

NSF-OIG questioned nine purchase card transactions totaling \$26,113 (direct costs).

**Finding 5 Response:**

UC Davis agrees with \$3,210 of the \$26,113 questioned purchase card transactions. Accordingly, we will remove them from the respective awards and seek guidance from NSF on how to return these funds.

UC Davis disagrees with \$22,903 of the \$26,113 questioned purchase card transactions and provides the following comment on these specific questioned cost transfers:

- *NSF-OIG questioned a \$4,470 purchase card transaction.*  
Two Dell PowerEdge servers were purchased and set up as two local Planetlab nodes in the global experimental testbed used to collect application-layer routing topology and performance data while communicating with other Planetlab nodes in the testbed. Per the PI, students working on both her NSF projects (#0238348 and #0520320) benefited from running experiments using the two local Planetlab nodes and this is the only computational server the students on these projects have access to. To better reflect the benefit of this purchase to both NSF awards, the PI requested to split the purchase according to her best estimate of the percentage of computation workload between the two projects utilizing the Planetlab nodes. This allocation is reasonable. UC Davis provided this justification to the auditors.
- *NSF-OIG questioned a \$3,543 purchase card transaction.*  
UC Davis provided the PI's purchase justification included with the invoice documents to the auditors. The specific budget justification for this hardware is to host an arXiv-related web site called the Front and for the complexity of Quantum Mathematics and Geometry computations. The Front needed to be moved to a new server in order to remain useful to the project. This information supports the purchase as 100% allocable to the NSF project.

- *NSF-OIG questioned a \$3,268 purchase card transaction*  
Per the PI, the laptop was used to carry out numerical simulations for the proposed research as well as in writing and preparing publications supported by this NSF grant. The award proposal's budget justification included the need for and request to purchase the laptop. This information and documentation justifies the allocation of the purchase to this NSF award.
- *NSF-OIG questioned a \$2,382 purchase card transaction.*  
The PI explained that the computer was necessary for completion of project titled Knots, Heegaard Splittings and Width Complexes. It is the PI who best understands the intent of the expenditure and allocation of use across sponsored and non-sponsored projects. This justification reasonably supports the allocation of the purchase to this NSF award.
- *NSF-OIG questioned a \$2,223 purchase card transaction.*  
The PI stated that the laptop purchased was used to work on this particular NSF project and no other projects. It is the PI who best understands the intent of the expenditure and allocation of use across sponsored and non-sponsored projects. This justification reasonably supports the allocation of the purchase to this NSF award.
- *NSF-OIG questioned a \$2,230 purchase card transaction.*  
The PI stated the computer was purchased in order to do the extensive calculations required for the research. It is the PI who best understands the intent of the expenditure and allocation of use across sponsored and non-sponsored projects. This justification reasonably supports the allocation of the purchase to this NSF award.
- *NSF-OIG questioned a \$2,031 purchase card transaction.*  
Per the PI, The workstation purchased was used to perform the extensive calculations required for the research and run the various programs needed to conclude the work on the NSF grant including: LaTeX, used to write research papers describing the results accomplished in the project; Adobe Illustrator, used to draw figures for these research articles; Maple and 4ti2 to do branching, tensor product multiplicities and eigencone calculations. This MAC OS operating system was necessary to adequately implement the software used for the project. The justification reasonably supports the allocation of the purchase to this NSF award.
- *NSF-OIG questioned a \$3,210 purchase card transaction.*  
UC Davis agrees with NSF-OIG and will remove these costs from the award.
- *NSF-OIG questioned a \$2,756 purchase card transaction.*  
UC Davis provided the following justification from the PI: The item is a custom Linux computer with server capacity. It was used for research involving large sequence dataset analysis and intense computation on SNP discovery for the project "Physical mapping of the wheat D genome". The benefit of the purchase to this project was estimated at 75% based on the planned usage. This was a reasonable allocation consistent with Circular A-21 Cost Principles for Educational Institutions "If a cost benefits two or more projects or activities in proportions that cannot be determined because of the interrelationship of the work involved, then, notwithstanding subsection b, the costs may be allocated or transferred to benefited projects on any reasonable basis, consistent with subsections d. (1) and (2)."

In conclusion, UC Davis assigns the responsibility for identifying necessary and reasonable award expenditures, and for determining the appropriate allocation across activities to the Principal Investigator (PI) who best understands the intent of the expenditure and allocation of use across sponsored and non-sponsored projects. It is the PI who, based on the specific knowledge, is uniquely positioned to determine how costs should be allocated.

Detailed information addressing the auditor's questions demonstrating allocation and benefit to the award of the questioned costs was provided to the auditors. We believe this supplemental detail fully supports the allowability, allocability, reasonableness and consistency of those charges. UC Davis will work with the Cost Analysis & Audit Resolution Branch within the Division of Institution and Award Support of the NSF to determine if any further adjustments need to be made and whether UC Davis needs to modify administrative and management controls.

#### **Finding 6: \$9,919 of Undocumented Costs Questioned**

NSF-OIG questioned \$9,919 of Undocumented Costs.

##### **Finding 6 Response:**

UC Davis disagrees with NSF-OIG's conclusion that UC Davis Fund No. 31916 was not associated with NSF Award No. 0734790. It is true that there was an error made in the fund name and the Root Award Number fields when setting up Fund No. 31916. However, all of the other fields, including Agency, Project Title, Start and Stop Dates, Total Award Amount, and Principal Investigator, clearly indicate this is the unique fund assigned to NSF Award No. 0734790. Both the UC Davis Contract and Grants Accounting department and the PI's research administration confirmed that UC Fund 31916 was established for NSF Award No. 0734790 and the erroneous information was human error.

NSF-OIG also identified a \$2,580 reimbursement in excess of actual costs on this same award. While we disagree with NSF-OIG's calculation, we do agree that a \$1,290 travel advance was charged twice to the NSF award in error. There were several debits and credits associated with the \$1,290 travel advance posted to the transaction ledger for this award and we believe that NSF-OIG missed one of the credits. We are providing the transaction ledger to support our calculation. UC Davis returned the \$1,290 excess reimbursement to NSF on May 2, 2012 and provided documentation to the auditors supporting this.

##### **NSF-OIG Recommends:**

UC Davis ensure all costs claimed on NSF awards are supported by and reconcilable to UC Davis official accounting records.

##### **UC Davis Response:**

We believe UC Davis has strong processes and controls in place to review and monitor the costs claimed on NSF awards. This includes the transaction initiation and approval process, monthly ledger reviews, PI ledger reviews, financial reporting, reimbursement requests, and financial award closeout procedures.

In conclusion, UC Davis disagrees with findings related to \$2,476,931 in questioned costs and agrees with the auditors on \$20,156 of questioned costs. The major financial findings in question are primarily related to the two different NSF 2/9<sup>th</sup> rules in effect for awards during the audit period. Applying the correct form of the rule to the correct awards combined with the University's

UC Davis NSF-OIG Audit Response  
May 31, 2016  
Page 21

reasonable rebudgeting authority granted to institutions through NSF policy guidance and FAQs serve to contradict the OIG's determinations related to salary charges. Additionally, the vast majority of questioned equipment purchases, cost transfers and allocation methods follow the requirements of allowability, allocability, reasonableness and consistency as supported by provided documentation, justifications and prior approvals when necessary. Thank you for your consideration of the information provided above.

For your reference, we are providing a list of the documentation, that to the best of our knowledge, UC Davis provided to NSF-OIG during the audit related to these costs questioned in the draft report.

Sincerely,



*Cindy Kiel*  
Executive Associate Vice Chancellor  
Office of Research  
University of California, Davis

Cc: Michael Allred, Associate Vice Chancellor Finance/Controller, UC Davis  
Amy Holzman, UC Davis External Audit Coordinator

## Appendix B: Summary of Questioned Salaries, Benefits, and Indirect Costs

### 2009–2010 Senior Personnel Salaries Questioned

We found \$884,344 of salaries, \$287,735 of fringe benefits, and \$615,603 of associated indirect costs claimed for 31 employees on 35 NSF awards did not comply with all three allowability criteria in NSF's Award and Administration Guide. On one of the 35 questioned awards — NSF Award No. 0120999 — the award notice specifically approved UC-Davis to charge salaries in excess of two months per year for four senior positions. Our initial test found that UC-Davis had charged salaries in excess of two months per year for seven employees during 2009 and 2010. One of the seven was among those specifically approved by NSF. UC-Davis did not claim salaries in excess of two months per year for employees occupying the other three approved positions. We accepted salaries as claimed for the approved employee and questioned the salaries in excess of two months per year for the remaining six employees for which NSF did not give specific approval.

Of the remaining 34 questioned awards, none received specific NSF approval for senior personnel salaries in excess of two months per employee, per year and we question all such salaries, benefits, and associated indirect costs.<sup>40</sup> The following table summarizes questioned salaries by NSF award number and UC-Davis employee ID number.

Award/Employee Number	Sum of Salary Questioned	Sum of Benefits Questioned	Sum of Indirect Questioned	Total Questioned
██████████	<b>\$364,867.00</b>	<b>\$127,145.00</b>	<b>\$258,433.00</b>	<b>\$750,445.00</b>
██████████	\$10,632.00	\$3,934.00	\$7,574.00	\$22,140.00
██████████	\$61,345.00	\$23,901.00	\$44,740.00	\$129,986.00
██████████	\$83,557.00	\$27,559.00	\$58,330.00	\$169,446.00
██████████	\$95,760.00	\$28,045.00	\$65,445.00	\$189,250.00
██████████	\$13,688.00	\$4,403.00	\$9,479.00	\$27,570.00
██████████	\$99,885.00	\$39,303.00	\$72,865.00	\$212,053.00
██████████	<b>\$6,167.00</b>	<b>\$1,665.00</b>	<b>\$4,073.00</b>	<b>\$11,905.00</b>
██████████	\$6,167.00	\$1,665.00	\$4,073.00	\$11,905.00
██████████	<b>\$21,373.00</b>	<b>\$5,771.00</b>	<b>\$14,270.00</b>	<b>\$41,414.00</b>
██████████	\$21,373.00	\$5,771.00	\$14,270.00	\$41,414.00
██████████	<b>\$717.00</b>	<b>\$179.00</b>	<b>\$466.00</b>	<b>\$1,362.00</b>
██████████	\$717.00	\$179.00	\$466.00	\$1,362.00
██████████	<b>\$29,398.00</b>	<b>\$10,734.00</b>	<b>\$20,926.00</b>	<b>\$61,058.00</b>
██████████	\$760.00	\$76.00	\$443.00	\$1,279.00
██████████	\$13,839.00	\$5,536.00	\$10,075.00	\$29,450.00
██████████	\$14,799.00	\$5,122.00	\$10,408.00	\$30,329.00
██████████	<b>\$1,194.00</b>	<b>\$119.00</b>	<b>\$696.00</b>	<b>\$2,009.00</b>

<sup>40</sup> Nine of the 34 questioned proposals met two of the three allowability criteria by including the additional senior personnel salaries in the proposal budget and justifying the excess in the proposal justification. An additional seven proposals met the first allowability criterion of including salaries in excess of two months in the proposal budget.

	\$1,194.00	\$119.00	\$696.00	\$2,009.00
	<b>\$4,538.00</b>	<b>\$545.00</b>	<b>\$2,643.00</b>	<b>\$7,726.00</b>
	\$4,538.00	\$545.00	\$2,643.00	\$7,726.00
	<b>\$36,692.00</b>	<b>\$11,885.00</b>	<b>\$25,335.00</b>	<b>\$73,912.00</b>
	\$4,800.00	\$48.00	\$2,521.00	\$7,369.00
	\$706.00	\$71.00	\$412.00	\$1,189.00
	\$15,105.00	\$6,042.00	\$10,996.00	\$32,143.00
	\$16,081.00	\$5,724.00	\$11,406.00	\$33,211.00
	<b>\$517.00</b>	<b>\$165.00</b>	<b>\$361.00</b>	<b>\$1,043.00</b>
	\$517.00	\$165.00	\$361.00	\$1,043.00
	<b>\$12,350.00</b>	<b>\$5,745.00</b>	<b>\$9,504.00</b>	<b>\$27,599.00</b>
	\$12,350.00	\$5,745.00	\$9,504.00	\$27,599.00
	<b>\$9,270.00</b>	<b>\$3,810.00</b>	<b>\$6,921.00</b>	<b>\$20,001.00</b>
	\$1,057.00	\$32.00	\$566.00	\$1,655.00
	\$8,213.00	\$3,778.00	\$6,355.00	\$18,346.00
	<b>\$45,090.00</b>	<b>\$9,391.00</b>	<b>\$28,557.00</b>	<b>\$83,038.00</b>
	\$45,090.00	\$9,391.00	\$28,557.00	\$83,038.00
	<b>\$27,018.00</b>	<b>\$5,267.00</b>	<b>\$16,925.00</b>	<b>\$49,210.00</b>
	\$27,018.00	\$5,267.00	\$16,925.00	\$49,210.00
	<b>\$59,349.00</b>	<b>\$22,393.00</b>	<b>\$42,873.00</b>	<b>\$124,615.00</b>
	\$59,349.00	\$22,393.00	\$42,873.00	\$124,615.00
	<b>\$14,403.00</b>	<b>\$3,719.00</b>	<b>\$9,573.00</b>	<b>\$27,695.00</b>
	\$14,403.00	\$3,719.00	\$9,573.00	\$27,695.00
	<b>\$3,980.00</b>	<b>\$40.00</b>	<b>\$2,090.00</b>	<b>\$6,110.00</b>
	\$3,980.00	\$40.00	\$2,090.00	\$6,110.00
	<b>\$17,020.00</b>	<b>\$7,148.00</b>	<b>\$12,809.00</b>	<b>\$36,977.00</b>
	\$17,020.00	\$7,148.00	\$12,809.00	\$36,977.00
	<b>\$2,420.00</b>	<b>\$290.00</b>	<b>\$1,409.00</b>	<b>\$4,119.00</b>
	\$2,420.00	\$290.00	\$1,409.00	\$4,119.00
	<b>\$3,072.00</b>	<b>\$1,290.00</b>	<b>\$2,312.00</b>	<b>\$6,674.00</b>
	\$3,072.00	\$1,290.00	\$2,312.00	\$6,674.00
	<b>\$21,883.00</b>	<b>\$5,908.00</b>	<b>\$14,606.00</b>	<b>\$42,397.00</b>
	\$21,883.00	\$5,908.00	\$14,606.00	\$42,397.00
	<b>\$50,402.00</b>	<b>\$16,128.00</b>	<b>\$34,601.00</b>	<b>\$101,131.00</b>
	\$50,402.00	\$16,128.00	\$34,601.00	\$101,131.00
	<b>\$31,243.00</b>	<b>\$12,497.00</b>	<b>\$23,182.00</b>	<b>\$66,922.00</b>
	\$31,243.00	\$12,497.00	\$23,182.00	\$66,922.00
	<b>\$9,424.00</b>	<b>\$1,131.00</b>	<b>\$5,594.00</b>	<b>\$16,149.00</b>
	\$9,424.00	\$1,131.00	\$5,594.00	\$16,149.00
	<b>\$6,369.00</b>	<b>\$2,971.00</b>	<b>\$4,917.00</b>	<b>\$14,257.00</b>
	\$6,369.00	\$2,971.00	\$4,917.00	\$14,257.00
	<b>\$11,729.00</b>	<b>\$4,497.00</b>	<b>\$8,448.00</b>	<b>\$24,674.00</b>

██████████	\$1,265.00	\$416.00	\$885.00	\$2,566.00
██████████	\$10,464.00	\$4,081.00	\$7,563.00	\$22,108.00
██████████	<b>\$2,370.00</b>	<b>\$166.00</b>	<b>\$1,344.00</b>	<b>\$3,880.00</b>
██████████	\$2,370.00	\$166.00	\$1,344.00	\$3,880.00
██████████	<b>\$1,179.00</b>	<b>\$236.00</b>	<b>\$750.00</b>	<b>\$2,165.00</b>
██████████	\$1,179.00	\$236.00	\$750.00	\$2,165.00
██████████	<b>\$43,952.00</b>	<b>\$11,096.00</b>	<b>\$29,039.00</b>	<b>\$84,087.00</b>
██████████	\$43,952.00	\$11,096.00	\$29,039.00	\$84,087.00
██████████	<b>\$3,625.00</b>	<b>\$652.00</b>	<b>\$2,267.00</b>	<b>\$6,544.00</b>
██████████	\$3,625.00	\$652.00	\$2,267.00	\$6,544.00
██████████	<b>\$5,450.00</b>	<b>\$927.00</b>	<b>\$3,380.00</b>	<b>\$9,757.00</b>
██████████	\$5,450.00	\$927.00	\$3,380.00	\$9,757.00
██████████	<b>\$17,327.00</b>	<b>\$8,837.00</b>	<b>\$13,867.00</b>	<b>\$40,031.00</b>
██████████	\$17,327.00	\$8,837.00	\$13,867.00	\$40,031.00
██████████	<b>\$18,359.00</b>	<b>\$4,957.00</b>	<b>\$12,357.00</b>	<b>\$35,673.00</b>
██████████	\$18,359.00	\$4,957.00	\$12,357.00	\$35,673.00
██████████	<b>\$838.00</b>	<b>\$218.00</b>	<b>\$560.00</b>	<b>\$1,616.00</b>
██████████	\$838.00	\$218.00	\$560.00	\$1,616.00
██████████	<b>\$484.00</b>	<b>\$164.00</b>	<b>\$343.00</b>	<b>\$991.00</b>
██████████	\$484.00	\$164.00	\$343.00	\$991.00
██████████	<b>\$275.00</b>	<b>\$49.00</b>	<b>\$172.00</b>	<b>\$496.00</b>
██████████	\$275.00	\$49.00	\$172.00	\$496.00
<b>Grand Total</b>	<b>\$884,344.00</b>	<b>\$287,735.00</b>	<b>\$615,603.00</b>	<b>\$1,787,682.00</b>

#### 2008 Faculty Summer Salaries Questioned

We found \$13,459 of salaries, \$1,636 of fringe benefits, and \$7,850 of associated indirect costs claimed for five UC-Davis faculty members on 10 NSF awards did not comply with allowability criteria in NSF's Award and Administration Guide. In none of the proposal budget justifications for the 10 questioned awards did UC-Davis disclose that the faculty members identified in our testing would be charging summer salaries in excess of two-ninths of the annual salary rates. Furthermore, none of the 10 award notices specifically approved UC-Davis to charge excess summer salaries. The following table summarizes questioned salaries by NSF award number and UC-Davis employee ID number.

Award/Employee Number	Sum of Salary Questioned	Sum of Benefits Questioned	Sum of Indirect Questioned	Total Questioned
██████████	\$9,156.00	\$1,126.00	\$5,347.00	\$15,629.00
██████████	\$9,156.00	\$1,126.00	\$5,347.00	\$15,629.00
██████████	\$98.00	\$12.00	\$57.00	\$167.00
██████████	\$98.00	\$12.00	\$57.00	\$167.00
██████████	\$96.00	\$12.00	\$56.00	\$164.00
██████████	\$96.00	\$12.00	\$56.00	\$164.00
██████████	\$109.00	\$12.00	\$63.00	\$184.00
██████████	\$109.00	\$12.00	\$63.00	\$184.00
██████████	\$429.00	\$46.00	\$247.00	\$722.00
██████████	\$429.00	\$46.00	\$247.00	\$722.00
██████████	\$323.00	\$35.00	\$186.00	\$544.00
██████████	\$323.00	\$35.00	\$186.00	\$544.00
██████████	\$2,160.00	\$263.00	\$1,260.00	\$3,683.00
██████████	\$2,160.00	\$263.00	\$1,260.00	\$3,683.00
██████████	\$296.00	\$34.00	\$172.00	\$502.00
██████████	\$296.00	\$34.00	\$172.00	\$502.00
██████████	\$628.00	\$76.00	\$366.00	\$1,070.00
██████████	\$628.00	\$76.00	\$366.00	\$1,070.00
██████████	\$164.00	\$20.00	\$96.00	\$280.00
██████████	\$164.00	\$20.00	\$96.00	\$280.00
Grand Total	\$13,459.00	\$1,636.00	\$7,850.00	\$22,945.00



---

## Appendix C: Objectives, Scope, and Methodology

---

The objectives of this performance audit were to determine whether (1) UC-Davis has adequate systems in place to account for and safeguard NSF funds, and (2) costs claimed by UC-Davis under a number of NSF awards were reasonable, allowable, and allocable and in conformity with NSF award terms and conditions and applicable Federal financial assistance award requirements. To accomplish the first objective, we reviewed UC-Davis policies, procedures, and systems, as well as relevant policies and procedures imposed on UC-Davis by the University of California, Office of the President (UCOP). We also interviewed appropriate UC-Davis personnel responsible for establishing and implementing control policies, procedures, and systems and performed tests of UC-Davis systems to assess their effectiveness in providing reliable management information and safeguarding NSF funds. Weaknesses identified are discussed in relevant sections of this report. To the extent weaknesses affected our ability to rely on UC-Davis data, we limited reliance on those data and expanded substantive tests of transactions.

To accomplish the second objective of determining reasonableness, allowability, and allocability of costs, we examined all awards for which costs were reported to NSF during the period of January 1, 2008, through December 31, 2010. This provided an audit universe of \$142,277,798 in costs claimed by UC-Davis under 783 NSF awards. Our work required reliance on computer-processed data obtained from UC-Davis and NSF. At our request, UC-Davis provided detailed transaction data for all costs charged to NSF awards during the audit period. We obtained NSF data by directly accessing NSF's various data systems. To select transactions for further review, we designed and performed automated tests of UC-Davis and NSF data to identify areas of risk and conducted detailed reviews of transactions in those areas.

We assessed the reliability of the data provided by UC-Davis by (1) comparing costs charged to NSF award accounts within UC-Davis's accounting records to reported net expenditures, as reflected in UC-Davis's quarterly financial reports submitted to NSF for the corresponding periods, performing General Ledger to Sub-Ledger reconciliations of UC-Davis accounting data, and reviewing and testing the parameters UC-Davis used to extract transaction data from its accounting records and systems. Based on our testing, we found UC-Davis's computer-processed data sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or controls over, NSF's databases were accurate or reliable; however the independent auditor's report on NSF's financial statements for fiscal years 2010 and 2011 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.<sup>41</sup> As this office monitored the work of the auditor, we believe a reasonable basis exists for relying on the accuracy and completeness of NSF's data.

In assessing the allowability of costs reported to NSF by UC-Davis, we also gained an understanding of the internal control structure applicable to the scope of this audit through interviews with UC-Davis staff, review of policies and procedures, conducting walkthroughs as applicable and reviews of general ledger transactions and accounting system and database documentation. We determined UC-Davis's compliance with UC-Davis and UCOP policies and procedures, as well as the following:

---

<sup>41</sup> The financial statements were audited by an independent public accounting firm operating under a contract monitored by the NSF Office of Inspector General.

- Office of Management and Budget Circular A-21, *Cost Principles for Educational Institutions* (2 CFR, Part 220)
- Office of Management and Budget Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations* (2 CFR, Part 215)
- National Science Foundation Award and Administration Guide
- National Science Foundation Federal Demonstration Partnership Terms and Conditions
- Award-specific terms and conditions

We identified instances of noncompliance resulting in questioned costs that are discussed in the relevant sections of this report.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions, based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions.