

## AGREEMENT

**THIS AGREEMENT** is made and entered into as of this \_\_\_\_ day of \_\_\_\_\_, 2019, by and between

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**  
(hereinafter referred to as “SBBC”),  
a body corporate and political subdivision of the State of Florida,  
whose principal place of business is  
600 Southeast Third Avenue, Fort Lauderdale, Florida 33301

and

**THE UNIVERSITY OF CHICAGO**  
(hereinafter referred to as “University”),  
located at  
6030 S. Ellis Avenue, Chicago, IL 60637.

**WHEREAS**, University will provide education research services as a subawardee of National Science Foundation (“NSF”) funded research; and

**WHEREAS**, University has been approved as a sub-award organization by NSF for execution of the NSF funded project Award ID 1542842.

**NOW, THEREFORE**, in consideration of the premises and of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

### ARTICLE 1 - RECITALS

1.01 **Recitals.** The parties agree that the foregoing recitals are true and correct and that such recitals are incorporated herein by reference.

### ARTICLE 2 – SPECIAL CONDITIONS

2.01 **Term of Agreement.** Unless terminated earlier pursuant to Section 3.05 of this Agreement, the term of this Agreement shall commence upon the execution of both parties and conclude on July 31, 2019.

2.02 **Services:** University shall provide SBBC with services and activities as stated in this Agreement and in the attached and incorporated as **Exhibit A**. Additionally, with the exception of prior approvals, University shall be in compliance with all of the terms, certifications and assurances in the National Science Foundation Grant General Conditions Effective May 14, 2018 which is attached and incorporated herein as **Exhibit B**. University shall seek any prior approvals referenced in **Exhibit B** from SBBC and not the Federal Awarding Agency.

2.03 **Certifications and Assurances.** University makes the certifications and assurances specified in the NSF Grant General Terms and Conditions (GC-1), dated May 14, 2018, available at [http://www.nsf.gov/awards/managing/general\\_conditions.jsp](http://www.nsf.gov/awards/managing/general_conditions.jsp), except for the following:

(a) The right to initiate an automatic one-time extension of the end date provided by Article 25(c)(2) is not applicable for this agreement.

(b) Any prior approvals are to be sought from the Prime Recipient (SBBC) and not the Federal Awarding Agency.

2.04 **Billing Instructions and Payments.** SBBC shall pay University for services listed in the **Exhibit A** timeline up to a maximum of One Hundred Ninety Thousand, One Hundred Thirty-Five Dollars and 00/100 Cents (\$190,135.00) according to the Supplement Narrative listed in **Exhibit A**. The University shall submit a proper and appropriate invoice to SBBC on not less than a monthly basis. The University will be paid according to same invoices. Checks will be made payable to The University of Chicago and directed to:

Sponsored Award Accounting  
Financial Services  
The University of Chicago  
6054 South Drexel Avenue  
Chicago, Illinois 60637

2.05 **SBBC Disclosure of Education Records:** SBBC has provided University with the following de-identified school records as part of previous work on this NSF funded project award ID 1542842: student demographics (including, but not limited to, gender, race/ethnicity and free/reduced lunch status) and Florida Standards Assessment (FSA) results. No additional education records will be disclosed. To provide meaningful results and protect the privacy of individual students, data are not reported when the total number of students in a group is less than 10.

2.06 **University Confidentiality of Education Records.** Notwithstanding any provision to the contrary within this Agreement, University shall:

(a) fully comply with the requirements of Sections 1002.22, 1002.221, and 1002.222, Florida Statutes; the Family Educational Rights and Privacy Act, 20 U.S.C § 1232g (FERPA) and its implementing regulations (34 C.F.R. Part 99), and any other state or federal law or regulation regarding the confidentiality of student information and records;

(b) hold any education records in strict confidence and not use or redisclose same except as required by this Agreement or as required or permitted by law unless the parent of each student or a student age 18 or older whose education records are to be shared provides prior written consent for their release;

(c) safeguard each education record through administrative, physical and technological standards to ensure that adequate controls are in place to protect the education records and information in accordance with FERPA's privacy requirements;

(d) notify SBBC immediately upon discovery of a breach of confidentiality of education records by telephone at 754-321-0300 (Manager, Information Security), and 754-321-1900 (Privacy Officer), and email at [privacy@browardschools.com](mailto:privacy@browardschools.com); and take all necessary

notification steps as may be required by federal and Florida law, including, but not limited to, those required by Section 501.171, Florida Statutes.

2.07 **Studies Conducted for SBBC:** Under the terms of this Agreement, University will be further analyzing the data set collected during the original study (NSF funded project Award ID 1542842) for, or on behalf of SBBC and will engage in the following activities: (1) Revised module implementation measurement, (2) Examination of outcome differences associated with differences between under-represented groups and their non-underrepresented counterparts, (3) Examination of relationships between implementation of the modules, computer science activities and teacher instructional practices associated with BCPS' measure of growth in the Achieve 3000 literacy scores, and (4) Qualitative analysis of students' definitions of computer science.

(a) The purposes and scope of the study/studies are to study the effect of the study interventions on student achievement as described in **Exhibit A**. SBBC has provided anonymized student information from an education record of a student to University in order for it to conduct said study. The study commenced on December 8, 2015 and will conclude June 30, 2019. University agrees that it shall destroy or return any disclosed information to SBBC when no longer needed for the purposes for which the study is to be conducted.

(b) University shall own any data which arises as a result of this study, and SBBC shall be permitted to use the data for any lawful purpose. SBBC shall own any intellectual property emerging from this Agreement.

(c) University shall be permitted to publish on the study in academic publications and the like. In the event of such a publication, University will provide SBBC with a manuscript at least thirty (30) days in advance of publication for SBBC's review and comment. SBBC shall provide comments within such thirty (30) day period and University shall consider such comments in good faith.

2.08 **Inspection of University's Records by SBBC.** University shall establish and maintain books, records and documents (including electronic storage media) sufficient to reflect all income and expenditures of funds provided by SBBC under this Agreement. All University's Records, regardless of the form in which they are kept, shall be open to inspection and subject to audit, inspection, examination, evaluation and/or reproduction, at mutually agreeable times during normal working hours, by SBBC's agent or its authorized representative to permit SBBC to evaluate, analyze and verify the satisfactory performance of the terms and conditions of this Agreement and to evaluate, analyze and verify the applicable business records of University's Records directly relating to this Agreement in order to verify the accuracy of invoices provided to SBBC. Such audit shall be no more than one (1) time per calendar year.

(a) **Duration of Right to Inspect.** For the purpose of such audits, inspections, examinations, evaluations and/or reproductions, SBBC's agent or authorized representative shall have access to University's Records from the effective date of this Agreement, for the duration of the term of this Agreement, and until the later of five (5) years after the termination of this

Agreement or five (5) years after the date of final payment by SBBC to University pursuant to this Agreement.

(b) Notice of Inspection. SBBC's agent or its authorized representative shall provide University reasonable advance notice (not to exceed two (2) weeks) of any intended audit, inspection, examination, evaluation and or reproduction.

(c) Audit Site Conditions. SBBC's agent or its authorized representative shall have access to University's facilities and to any and all records related to this Agreement, and shall be provided adequate and appropriate work space in order to exercise the rights permitted under this section.

(d) Failure to Permit Inspection. Failure by University to permit audit, inspection, examination, evaluation and/or reproduction as permitted under this Section shall constitute grounds for termination of this Agreement by SBBC for cause and shall be grounds for the denial of some or all of any University's claims for payment.

(e) Overcharges and Unauthorized Charges. If an audit conducted in accordance with this section discloses overcharges or unauthorized charges to SBBC by University in excess of two percent (2%) of the total billings under this Agreement, the actual cost of SBBC's audit shall be paid by University. If the audit discloses billings or charges to which University is not contractually entitled, University shall pay said sum to SBBC within twenty (20) days of receipt of written demand under otherwise agreed to in writing by both parties.

(f) Inspection of Subcontractor's Records. University shall require any and all subcontractors, insurance agents and material suppliers (hereafter referred to as "Payees") providing services or goods with regard to this Agreement to comply with the requirements of this section by insertion of such requirements in any written subcontract. Failure by University to include such requirements in any subcontract shall constitute grounds for termination of this Agreement by SBBC for cause and shall be grounds for the exclusion of some or all of any Payee's costs from amounts payable by SBBC to University pursuant to this Agreement and such excluded costs shall become the liability of University.

(g) Inspector General Audits. University shall comply and cooperate immediately with any inspections, reviews, investigations, or audits deemed necessary by the Florida Office of the Inspector General or by any other state or federal officials.

2.09 Notice. When any of the parties desire to give notice to the other, such notice must be in writing, sent by U.S. Mail, postage prepaid, addressed to the party for whom it is intended at the place last specified; the place for giving notice shall remain such until it is changed by written notice in compliance with the provisions of this paragraph. For the present, the Parties designate the following as the respective places for giving notice:

To SBBC:

Superintendent of Schools  
The School Board of Broward County, Florida

600 Southeast Third Avenue  
Fort Lauderdale, Florida 33301

With a Copy to:

Dr. Lisa V. Milenkovic  
The School Board of Broward County, Florida  
600 Southeast Third Avenue  
Fort Lauderdale, Florida 33301

To University:

The University of Chicago  
University Research Administration  
6030 S. Ellis Avenue, Room 114  
Chicago, IL 60637  
Attn: Michael R. Ludwig,  
Associate VP for Research Administration

2.10 **Background Screening.** University shall comply with all requirements of Sections 1012.32 and 1012.465, Florida Statutes, and all of its personnel who (1) are to be permitted access to school grounds when students are present, (2) will have direct contact with students, or (3) have access or control of school funds, will successfully complete the background screening required by the referenced statutes and meet the standards established by the statutes. This background screening will be conducted by SBBC in advance of University or its personnel providing any services under the conditions described in the previous sentence. University shall bear the cost of acquiring the background screening required by Section 1012.32, Florida Statutes, and any fee imposed by the Florida Department of Law Enforcement to maintain the fingerprints provided with respect to University and its personnel. The parties agree that the failure of University to perform any of the duties described in this section shall constitute a material breach of this Agreement entitling SBBC to terminate immediately with no further responsibilities or duties to perform under this Agreement. University agrees to indemnify and hold harmless SBBC, its officers and employees from any liability in the form of physical or mental injury, death or property damage resulting from University's failure to comply with the requirements of this Section or with Sections 1012.32 and 1012.465, Florida Statutes.

2.11 **Public Records.** The following provisions are required by Section 119.0701, Florida Statutes, and may not be amended. University shall keep and maintain public records required by SBBC to perform the services required under this Agreement. Upon request from SBBC's custodian of public records, University shall provide SBBC with a copy of any requested public records or to allow the requested public records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law. University shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement's term and following completion of the Agreement if University does not transfer the public records to SBBC. Upon completion of the Agreement, University shall transfer, at no cost, to SBBC all public records in possession of University or keep and maintain public records required by SBBC to perform the services required under the Agreement. If University transfers all public records to SBBC upon

completion of the Agreement, University shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If University keeps and maintains public records upon completion of the Agreement, University shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to SBBC, upon request from SBBC's custodian of public records, in a format that is compatible with SBBC's information technology systems.

**IF A PARTY TO THIS AGREEMENT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO ITS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THE AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 754-321-1900, [RECORDREQUESTS@BROWARDSCHOOLS.COM](mailto:RECORDREQUESTS@BROWARDSCHOOLS.COM), RISK MANAGEMENT DEPARTMENT, PUBLIC RECORDS DIVISION, 600 SOUTHEAST THIRD AVENUE, FORT LAUDERDALE, FLORIDA 33301.**

2.12 **Liability.** This section shall survive the termination of all performance or obligations under this Agreement and shall be fully binding until such time as any proceeding brought on account of this Agreement is barred by any applicable statute of limitations.

(a) By SBBC: SBBC agrees to be fully responsible up to the limits of Section 768.28, Florida Statutes, for its acts of negligence, or its employees' acts of negligence when acting within the scope of their employment and agrees to be liable for any damages resulting from said negligence.

(b) By University: University agrees to be fully responsible for its acts of negligence, or its employees' acts of negligence when acting within the scope of their employment and agrees to be liable for any damages resulting from said negligence.

2.13 **Insurance Requirements.** University shall comply with the following insurance requirements throughout the term of this Agreement: **General Liability.** University shall maintain General Liability insurance during the term of this Agreement with limits not less than \$1,000,000 per occurrence for Bodily Injury/ Property Damage; \$1,000,000 General Aggregate. Limits not less than \$1,000,000 for Products/Completed Operations Aggregate. Please indicate on certificate, "All policies are primary of all other valid and collectable coverage maintained by The School Board of Broward County, Florida" and "Certificate holder is named as an additional insured" in the description box on General Liability certificate.

2.14 **Equal Opportunity Provision.** The parties agree that no person shall be subjected to discrimination because of age, race, color, disability, gender identity, gender expression, marital status, national origin, religion, sex or sexual orientation in the performance of the parties' respective duties, responsibilities and obligations under this Agreement.

2.15 **Annual Appropriation.** The performance and obligations of SBBC under this Agreement shall be contingent upon an annual budgetary appropriation by its governing body. If SBBC does not allocate funds for the payment of services or products to be provided under this

Agreement, this Agreement may be terminated by SBBC at the end of the period for which funds have been allocated. SBBC shall notify the other party at the earliest possible time before such termination. No penalty shall accrue to SBBC in the event this provision is exercised, and SBBC shall not be obligated or liable for any future payments due or any damages as a result of termination under this section.

2.16 **Excess Funds.** Any party receiving funds paid by SBBC under this Agreement agrees to promptly notify SBBC of any funds erroneously received from SBBC upon the discovery of such erroneous payment or overpayment. Any such excess funds shall be refunded to SBBC.

2.17 **Incorporation by Reference.** Exhibits A and B attached hereto and referenced herein shall be deemed to be incorporated into this Agreement by reference.

### **ARTICLE 3 – GENERAL CONDITIONS**

3.01 **No Waiver of Sovereign Immunity.** Nothing herein is intended to serve as a waiver of sovereign immunity by any agency or political subdivision to which sovereign immunity may be applicable or of any rights or limits to liability existing under Section 768.28, Florida Statutes. This section shall survive the termination of all performance or obligations under this Agreement and shall be fully binding until such time as any proceeding brought on account of this Agreement is barred by any applicable statute of limitations.

3.02 **No Third-Party Beneficiaries.** The parties expressly acknowledge that it is not their intent to create or confer any rights or obligations in or upon any third person or entity under this Agreement. None of the parties intend to directly or substantially benefit a third party by this Agreement. The parties agree that there are no third-party beneficiaries to this Agreement and that no third party shall be entitled to assert a claim against any of the parties based upon this Agreement. Nothing herein shall be construed as consent by an agency or political subdivision of the State of Florida to be sued by third parties in any matter arising out of any contract.

3.03 **Independent Contractor.** The parties to this agreement shall at all times be acting in the capacity of independent contractors and not as an officer, employee or agent of one another. Neither party or its respective agents, employees, subcontractors or assignees shall represent to others that it has the authority to bind the other party unless specifically authorized in writing to do so. No right to SBBC retirement, leave benefits or any other benefits of SBBC employees shall exist as a result of the performance of any duties or responsibilities under this Agreement. SBBC shall not be responsible for social security, withholding taxes, contributions to unemployment compensation funds or insurance for the other party or the other party's officers, employees, agents, subcontractors or assignees.

3.04 **Default.** The parties agree that, in the event that either party is in default of its obligations under this Agreement, the non-defaulting party shall provide to the defaulting party (30) days written notice to cure the default. However, in the event said default cannot be cured within said thirty (30) day period and the defaulting party is diligently attempting in good faith to cure same, the time period shall be reasonably extended to allow the defaulting party additional

cure time. Upon the occurrence of a default that is not cured during the applicable cure period, this Agreement may be terminated by the non-defaulting party upon thirty (30) days notice. This remedy is not intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy now or hereafter existing at law or in equity or by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or future exercise thereof. Nothing in this section shall be construed to preclude termination for convenience pursuant to Section 3.05.

3.05 **Termination.** This Agreement may be canceled with or without cause by SBBC during the term hereof upon thirty (30) days written notice to the other parties of its desire to terminate this Agreement. In the event of such termination, SBBC shall be entitled to a pro rata refund of any pre-paid amounts for any services scheduled to be delivered after the effective date of such termination. SBBC shall have no liability for any property left on SBBC's property by any party to this Agreement after the termination of this Agreement. Any party contracting with SBBC under this Agreement agrees that any of its property placed upon SBBC's facilities pursuant to this Agreement shall be removed within ten (10) business days following the termination, conclusion or cancellation of this Agreement and that any such property remaining upon SBBC's facilities after that time shall be deemed to be abandoned, title to such property shall pass to SBBC, and SBBC may use or dispose of such property as SBBC deems fit and appropriate.

3.06 **Compliance with Laws.** Each party shall comply with all applicable federal, state and local laws, SBBC policies, codes, rules and regulations in performing its duties, responsibilities and obligations pursuant to this Agreement.

3.07 **Place of Performance.** All obligations of SBBC under the terms of this Agreement are reasonably susceptible of being performed in Broward County, Florida and shall be payable and performable in Broward County, Florida.

3.08 **Governing Law and Venue.** This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. Any controversies or legal problems arising out of this Agreement and any action involving the enforcement or interpretation of any rights hereunder shall be submitted exclusively to the jurisdiction of the State courts of the Seventeenth Judicial Circuit of Broward County, Florida or to the jurisdiction of the United States District Court for the Southern District of Florida. Each party agrees and admits that the state courts of the Seventeenth Judicial Circuit of Broward County, Florida or the United States District Court for the Southern District of Florida shall have jurisdiction over it for any dispute arising under this Agreement.

3.09 **Entirety of Agreement.** This document incorporates and includes all prior negotiations, correspondence, conversations, agreements and understandings applicable to the matters contained herein and the parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written.



3.10 **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

3.11 **Assignment.** Neither this Agreement or any interest herein may be assigned, transferred or encumbered by any party without the prior written consent of the other party. There shall be no partial assignments of this Agreement including, without limitation, the partial assignment of any right to receive payments from SBBC.

3.12 **Captions.** The captions, section designations, section numbers, article numbers, titles and headings appearing in this Agreement are inserted only as a matter of convenience, have no substantive meaning, and in no way define, limit, construe or describe the scope or intent of such articles or sections of this Agreement, nor in any way affect this Agreement and shall not be construed to create a conflict with the provisions of this Agreement.

3.13 **Severability.** In the event that any one or more of the sections, paragraphs, sentences, clauses or provisions contained in this Agreement is held by a court of competent jurisdiction to be invalid, illegal, unlawful, unenforceable or void in any respect, such shall not affect the remaining portions of this Agreement and the same shall remain in full force and effect as if such invalid, illegal, unlawful, unenforceable or void sections, paragraphs, sentences, clauses or provisions had never been included herein.

3.14 **Preparation of Agreement.** The parties acknowledge that they have sought and obtained whatever competent advice and counsel as was necessary for them to form a full and complete understanding of all rights and obligations herein and that the preparation of this Agreement has been their joint effort. The language agreed to herein expresses their mutual intent and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the parties than the other.

3.15 **Amendments.** No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document prepared with the same or similar formality as this Agreement and executed by each party hereto.

3.16 **Waiver.** The parties agree that each requirement, duty and obligation set forth herein is substantial and important to the formation of this Agreement and, therefore, is a material term hereof. Any party's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement unless the waiver is in writing and signed by the party waiving such provision. A written waiver shall only be effective as to the specific instance for which it is obtained and shall not be deemed a continuing or future waiver.

3.17 **Force Majeure.** Neither party shall be obligated to perform any duty, requirement or obligation under this Agreement if such performance is prevented by fire, hurricane, earthquake, explosion, wars, sabotage, accident, flood, acts of God, strikes, or other labor disputes, riot or civil commotions, or by reason of any other matter or condition beyond the control of either party, and which cannot be overcome by reasonable diligence and without unusual expense ("Force Majeure"). In no event shall a lack of funds on the part of either party be deemed Force Majeure.

3.18 **Survival.** All representations and warranties made herein, indemnification obligations, obligations to reimburse SBBC, obligations to maintain and allow inspection and audit of records and property, obligations to maintain the confidentiality of records, reporting requirements, and obligations to return public funds shall survive the termination of this Agreement.

3.19 **Agreement Administration.** SBBC has delegated authority to the Superintendent of Schools or his/her designee to take any actions necessary to implement and administer this Agreement.

3.20 **Counterparts and Multiple Originals.** This Agreement may be executed in multiple originals, and may be executed in counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same Agreement.

3.21 **Authority.** Each person signing this Agreement on behalf of either party individually warrants that he or she has full legal power to execute this Agreement on behalf of the party for whom he or she is signing, and to bind and obligate such party with respect to all provisions contained in this Agreement.

**IN WITNESS WHEREOF**, the Parties hereto have made and executed this Agreement on the date first above written.

**[THIS SPACE INTENTIONALLY LEFT BLANK; SIGNATURE PAGES FOLLOW]**

**FOR SBBC**

(Corporate Seal)

THE SCHOOL BOARD OF BROWARD  
COUNTY, FLORIDA

ATTEST:

By \_\_\_\_\_  
Heather P. Brinkworth, Chair

\_\_\_\_\_  
Robert W. Runcie, Superintendent of Schools

Approved as to Form and Legal Content:

\_\_\_\_\_  
Office of the General Counsel

**[THIS SPACE INTENTIONALLY LEFT BLANK; SIGNATURE PAGE FOLLOWS]**

**FOR UNIVERSITY**

(Corporate Seal)

THE UNIVERSITY OF CHICAGO

ATTEST:  
Article I.

By \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_, Secretary

-or-

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

**The Following Notarization is Required for Every Agreement Without Regard to  
Whether the Party Chose to Use a Secretary's Attestation or Two (2) Witnesses.**

STATE OF \_\_\_\_\_

Article II. COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_ by \_\_\_\_\_ of

Name of Person

\_\_\_\_\_, on behalf of the corporation/agency.

Name of Corporation or Agency

He/She is personally known to me or produced \_\_\_\_\_ as  
identification and did/did not first take an oath. Type of Identification

My Commission Expires:

\_\_\_\_\_  
Signature – Notary Public

(SEAL)

\_\_\_\_\_  
Printed Name of Notary

\_\_\_\_\_  
Notary's Commission No.

## **Investigating Conceptual Foundations for a Transdisciplinary Model Integrating Computer Science into the Elementary STEM Curriculum (NSF Award 1542842)**

### ***Supplemental Award Scope of Work***

#### **Background**

For the last 2 ½ years, Broward County Public Schools (BCPS) has been collaborating with Outlier Research & Evaluation | UChicago STEM Education at the University of Chicago on this study. Over the course of the project, BCPS developed “transdisciplinary” modules (“Time4CS” modules) that included theme-based science, ELA, and social studies lessons with associated Code.org CS lessons from the Code.org “Fundamentals” program. A group of BCPS teachers, directed by district coaches, created two modules for each, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades. The modules were designed to be implemented during BCPS’ 180-minute literacy block so that teachers could have the tools and resources they needed to include lessons from other subject areas while also emphasizing literacy.

The project’s over-arching research question was: “What are the effects of implementing computer science lessons within an integrated curriculum on grade 3-5 students’ attitudes toward CS and academic achievement?” To answer this question, Outlier examined two sub-questions:

RQ 1: Is the implementation of integrated STEM/ELA and CS modules associated with increases in grade 3-5 students’ academic achievement outcomes?

RQ 2: Is the implementation of integrated STEM/ELA and CS modules associated with increases in grade 3-5 students’ attitudes toward CS?

#### ***Time4CS Modules***

The Time4CS modules were designed to be embedded in the elementary day’s 180-minute literacy block. The first 90 minutes of each block was dedicated to literacy and included the study of ELA texts and student involvement in ELA centers. The second half of the block was dedicated to the module activities. Each module focused on a social-studies standards-based theme with an associated problem. Students were provided opportunities to address this problem through their experiences with trans-disciplinary literacy, science and social science lessons that had associated CS lessons from the Code.org program. The Time4CS modules consisted of daily, 90-minute lesson plans. Each Module was taught over a five to seven week time period, and was organized into week-long lesson “collections” aligned to Florida State Assessment (FSA) Standards in ELA, science, social studies, and computer science. Teachers who taught the modules were expected to teach all lessons in the Code.org Fundamentals course assigned to their grade and were also invited to add other lessons from Code.org and/or Scratch throughout the module.

#### **Work Leading to this Supplement Request**

The first two years of the project resulted in the completion of six draft interdisciplinary problem-based modules. Given that this project was exploratory the modules remain in their early development formats with some modifications being made as possible.

In addition to the modules, the project generated a number of notable research findings associated with the research questions. Although there were no effects of module implementation on student attitude, there were significant effects on student academic achievement. Findings are briefly summarized here.

- 1) There were no significant relationships between module implementation and student attitude and no differences between treatment and control students.
- 2) For a combined sample of treatment and control teachers, positive significant relationships were found between teacher implementation of supplemental computer science activities and student Lexile score, ELA and mathematics.
- 3) For a combined sample of treatment and control teachers, negative significant relationship between mandatory CS activities completed and Lexile score.
- 4) Positive significant relationships between enactment of interdisciplinary teaching practices and ELA scores.
- 5) For treatment group only, significant relationships were found between modifying and adding activities to the STEM+C modules and ELA and Mathematics scores.
- 6) Overall, teachers in the treatment group taught a significantly higher percentage of mandatory CS activities and supplemental CS activities.

These findings have many implications for the role that interdisciplinary problem-based units can have for making time for CS in the elementary school day. Additionally, they take an initial step toward illuminating relationships between CS and student academic outcomes in other subject areas.

### **Next Steps**

The next work will focus on the two main project areas: 1) further module revision; and 2) additional analysis.

**Module Revision:** BCPS and Outlier will work with Outlier's curriculum development experts at UChicago STEM Education to revise the 4<sup>th</sup> grade ICPL modules. These revisions will result in two improved modules, one for the fall and one for the spring. These modules will be more fully developed and as such, will be able to be implemented without the significant professional development support that was required for the "alpha" version.

Although professional development is always desirable, these modules will include more detailed direction and educative materials so that they can be used by teachers with minimal support. These modules will be made widely available upon completion. These modules will serve as the prototypes from a more complete revisions of modules for 3<sup>rd</sup> and 5<sup>th</sup> grade and beyond.

The module revision process will include a BCPS/UChicago STEM Ed team who will work with 5-10 pilot teachers. Teachers will complete a log for every lesson as well as written reflections at the end of each module. These data will inform small revisions as are possible while the module is being taught as well as final revisions.

**Additional Analysis:**

There are still a number of analyses to do with the data set that can offer new information and insights. Outlier's team will engage in the following activities:

- 1) *Revised module implementation measurement.* During the module revision activities, teachers will be asked to complete lesson logs and written reflections about module implementation. Outlier will provide descriptive statistical analyses of the logs where appropriate and qualitative coding analysis of teacher reflections.
- 2) *Examination of outcome differences associated with differences between under-represented groups and their non-underrepresented counterparts.* When conducting the analyses reported on above, the Outlier team observed differences in achievement associated with students' socio-demographic characteristics. Outlier will conduct a more formal analysis of the data to examine relationships between implementation of the modules, computer science activities and teacher instructional practices associated with reduced attitudinal outcomes and achievement gaps for: male versus female students; white versus racially/ethnically diverse students and high and low socioeconomic status students.
- 3) *Examination of relationships between implementation of the modules, computer science activities and teacher instructional practices associated with BCPS' measure of growth in the Achieve 3000 literacy sores.* This analysis will use a growth model to examine changes in students' Achieve 3000 literacy scores.
- 4) *Qualitative analysis of students' definitions of computer science.* Outlier will use qualitative coding procedures, particularly thematic analysis to generate themes related to how students define "computer science." These themes will be categorized and depicted with data visualizations.

Other analyses will focus on the teacher data collected. They will include the following:

- 1) *Analysis of associations between teacher STEM-related attitudes and implementation of Time4CS modules, computer science activities and instructional practices.*
- 2) *Analysis of associations between teachers' STEM-related attitudes and students' STEM-related attitudes and academic achievement outcomes.*
- 3) *Analysis of associations between teachers attitudes toward interdisciplinary teaching practices and implementation of the Time4CS modules, computer science activities and instructional practices.*

## Justification for Supplement

The STEM education field is engaging in unprecedented efforts to broaden participation in STEM. This is particularly true for computer science. Despite the ubiquity of computing and our reliance on it as a society, access to quality CS education is sporadic and unequal (Google Inc. & Gallup Inc., 2016; Margolis, Estrella, Goode, Jellison, Holme, & Nao, 2008). CS education can prepare learners for a growing number of CS jobs (NSF, 2012) and for those not pursuing a CS career, the processes employed in CS and computational thinking (CT) are crucial for understanding and navigating the world we live in. Accordingly, there is a rapidly growing interest in bringing CS to elementary schools.

This interest is not new and dates back to the 1980s (Passey, 2017) while in recent years efforts such as the Hour of Code have raised awareness. The current movement, however, calls for a deeper CS presence in the elementary schools, bringing with it the challenge of finding time for it in the elementary school day. This project has already demonstrated impact on this problem through the creation of interdisciplinary problem-based modules; teachers in the treatment group (with the modules) taught both, more mandatory computer science activities and more supplemental computer science activities. There is a high demand for these modules, but they are not yet in a form that lends itself to being widely available. This supplement will enable the team to bring the 4<sup>th</sup> grade modules to a point of completion that will enable them to be used beyond BCPC.

Additionally, this project has yielded findings that point to relationships between supplemental computer science activities and interdisciplinary teaching practices and increases in student academic outcomes. These findings warrant further investigation, particularly with regard to differences between underrepresented groups and their counterparts. Moreover, the first set of analyses did not include deep examinations of teacher attitudes and their relationships to implementation. Understanding these relationships is key for developing supports and addressing barriers for broad future dissemination and for informing module improvement. This supplement will support these additional analyses.

## References

- Google Inc. & Gallup Inc. (2016). Trends in the State of Computer Science in U.S. K-12 Schools. Retrieved from <http://goo.gl/j291E0>
- Margolis, J., Estrella, R., Goode, J., Jellison Holme, J., & Nao, K. (2008). *Stuck in the Shallow End: Education, Race and Computing*. The MIT Press, Cambridge, MA.
- National Science Foundation. (2012). NSF joins in commemorating computer science education week 2012: America's top computer scientists proclaim the virtues of computer science education today. [Press Release 12-227]
- Passey, D. (2016). Computer science (CS) in the compulsory education curriculum: Implications for future research. *Education and Information Technologies*, 22, 421-443.





**NATIONAL SCIENCE FOUNDATION (NSF)  
Grant General Conditions (GC-1)  
Effective May 14, 2018**

Effective May 14, 2018, new NSF grants and funding amendments to existing NSF grants made to for-profit organizations (other than Small Business Innovation Research and Small Business Technology Transfer grantees) and State and local governments will begin referencing, and are subject to, the *Grant General Conditions (GC-1)* dated 05/14/18.

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## 1. Grantee Responsibilities and Federal Requirements

a. The grantee has full responsibility for the conduct of the project or activity supported under this grant and for adherence to the grant conditions. Although the grantee is encouraged to seek the advice and opinion of NSF on special problems that may arise, such advice does not diminish the grantee's responsibility for making sound scientific and administrative judgments and should not imply that the responsibility for operating decisions has shifted to NSF. The grantee is responsible for notifying NSF about: (1) any allegation of research misconduct that it concludes has substance and requires an investigation in accordance with NSF research misconduct regulations published at 45 Code of Federal Regulations (CFR) Part 689; or (2) any significant problems relating to the administrative or financial aspects of the grant.

b. The requirements of this grant are contained in these *Grant General Conditions* unless otherwise specified in the award notice. The applicable Federal administrative standards are incorporated by reference and are contained in 2 CFR § 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). 2 CFR § 200 also applies to commercial organizations, including small businesses. These *Grant General Conditions* (GC-1) serve as the Foundation's implementation of 2 CFR § 200. If the GC-1 is silent on a specific area covered by 2 CFR § 200, the requirements specified in 2 CFR § 200 must be followed.

c. By acceptance of this grant, the grantee agrees to comply with the applicable Federal requirements for grants and cooperative agreements and to the prudent management of all expenditures and actions affecting the grant including the monitoring of subrecipients (if applicable). Specific guidance on subrecipient monitoring and management can be found in 2 CFR § 200.331. A listing of National Policy Requirements that grantees must adhere to, where applicable, is located at: <https://nsf.gov/awards/managing/rtc.jsp>.

d. Documentation for each expenditure or action affecting this grant must reflect appropriate organizational reviews or approvals that should be made in advance of the action. Organizational reviews are intended to help assure that expenditures are allowable, necessary and reasonable for the conduct of the project, and that the proposed action:

1. is consistent with grant terms and conditions;
2. is consistent with NSF and grantee policies;
3. represents effective utilization of resources; and
4. does not constitute a significant project change (see Article 8).

Nothing in this article shall be construed to require administrative reviews or documentation that duplicates those already required by existing organizational systems or by applicable Federal standards, e.g., 2 CFR § 200.

e. The grantee is responsible for ensuring that the Principal Investigator(s) (PIs) or Project Director(s) (PDs) and co-PIs/co-PDs receive a copy of the grant conditions, including: the award notice, the budget, these general terms and conditions, any special terms and conditions and any subsequent changes in the grant conditions. These grant conditions are made available to the grantee by NSF in electronic form ([http://www.nsf.gov/awards/managing/general\\_conditions.jsp?org=NSF](http://www.nsf.gov/awards/managing/general_conditions.jsp?org=NSF)), and may be duplicated, copied or otherwise reproduced by the grantee as appropriate. This provision does not alter the grantee's full responsibility for conduct of the project and compliance with all grant terms and conditions. Award notices are available electronically via the NSF FastLane system at <https://www.fastlane.nsf.gov/fastlane.jsp>. Sponsored Project Offices are able to view, print and/or download NSF award notices for their organizations and PIs/PDs and co-PIs/co-PDs can access their individual award notices through use of the FastLane system.

## 2. Prior Approval Requirements

Unless otherwise stated in the award notice, grantees must obtain NSF prior written approval as specified in the [NSF Prior Approval Matrix for State and Local Governments and For-Profit Organizations](#). As a service to grantees, the most commonly requested prior approvals are listed below.

a. NSF prior written approval is required for:

1. Significant Project Changes

(a) Transfer of the project effort (see Article 8. See also 2 CFR § 200.308)

(b) Changes in objectives or scope (see Article 8. See also 2 CFR § 200.308)

(c) Long-Term Disengagement or change of PI/PD or co-PI/co-PD (see Article 8. See also 2 CFR § 200.308)

(d) Change to cost sharing commitments reflected on Line M of the NSF grant budget (see Article 29)

2. Rearrangement and Reconversion Costs (see Article 11)

3. Salaries of administrative or clerical staff (see 2 CFR § 200.413)

4. Transfer of funds budgeted for participant support (see Article 7. See also [2 CFR § 200.308\(c\)\(v\)](#)).

5. Additional categories of participant support costs other than those described in 2 CFR § 200.75 (see Article 7. See also the NSF [Proposal & Award Policies & Procedures Guide \(PAPPG\) Chapter II.C.2.g\(v\)](#)).

b. Requests for NSF prior written approval specified in the NSF Prior Approval Matrix for State and Local Governments and For-Profit Organizations must be submitted via the use of NSF's electronic systems. Those prior approval requirements that do not already have a specific request type in NSF's electronic systems must be submitted via use of the "Other" category in Research.gov.

### 3. Pre-award Costs

- a. Grantees may approve pre-award costs incurred within the ninety calendar day period before the start date of the grant. Requests for approval of pre-award costs for periods greater than 90 calendar days must be submitted electronically via NSF's electronic systems. Pre-award expenditures prior to the funding of an increment within a continuing grant are not subject to this limitation or approval requirement, but are subject to paragraph c. below.
- b. Pre-award costs must be necessary for the effective and economical conduct of the project and the costs must be otherwise allowable in accordance with Article 12.
- c. Pre-award expenditures are made at the grantee's risk. Grantee authority to approve pre-award costs does not impose an obligation on NSF: (1) in the absence of appropriations; (2) if a grant is not subsequently made; or (3) if a grant is made for a lesser amount than the grantee anticipated.

### 4. No-Cost Extensions

- a. Grantees may authorize a one-time extension of the end date of the grant up to 12 months if additional time beyond the established end date is required to assure adequate completion of the original scope of work within the funds already made available.<sup>1</sup> A single extension, which shall not exceed 12 months, may be made for this purpose and must be made prior to the originally established end date. As stipulated in 2 CFR § 200.308(d)(2), this one-time extension may not be exercised merely for the purpose of using any unliquidated balances.
- b. Grantees shall notify NSF, providing supporting reasons for the extension, and the revised period of performance, at least ten calendar days prior to the end date specified in the grant to ensure accuracy of NSF's award data. All grantee-authorized extensions must be submitted electronically via NSF's electronic systems.
- c. Requests for no-cost extensions beyond the above referenced authority must follow the procedures set forth in [PAPPG Chapter VI.D.3.c](#).

### 5. Consultant Services (also referred to as Professional Service Costs)

Costs for professional and consultant services, including those who are members of a particular profession or possess a special skill and who are not officers or employees of the performing organization, are allowable when reasonable in relation to the services rendered and when not contingent upon recovery of costs from NSF. If not included in the grant budget, anticipated services must be justified and information furnished on each individual's expertise, primary organizational affiliation, normal daily compensation rate and number of days of expected service. Consultants' travel costs, including subsistence, may be included. If requested, the grantee must be able to justify that the proposed rate of pay is reasonable. Additional information on the allowability of consultant costs is available in 2 CFR § 200.459.

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<sup>1</sup> Grantees are not authorized to extend an award that contains a zero balance.

## 6. Equipment

The standards for managing, tracking, and disposing of property furnished by NSF or whose cost was charged to a project supported by an NSF grant are outlined in 2 CFR § 200.310-316. See also FAQ 200.318-1 of the [Frequently Asked Questions for The Office of Management and Budget's \(OMB\) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 CFR § 200](#) regarding Equipment and A-110 Screening Procedures.

### a. *Title to Equipment – Non-profit Organizations*

Unless otherwise specified in the grant, title to equipment purchased or fabricated with NSF grant funds will vest in the grantee upon acquisition in accordance with 15 United States Code (USC) 3710. Such equipment is considered exempt property and shall be acquired and used in accordance with paragraph c below. In special situations, the grant may require that title to equipment purchased, acquired or fabricated by the grantee with NSF funds pass directly to the government upon acquisition.

### b. *Title to Equipment –All Other Types of Organizations*

Unless otherwise specified in the grant, title to equipment purchased or fabricated with NSF grant funds by a small business or other for-profit organization will vest in the Government. Such equipment will be acquired and used in accordance with paragraph c below.

### c. *Conditions for Acquisition and Use of Equipment*

1. Grantee Assurance. The grantee will assure that for each purchase of equipment, it is:
  - (a) necessary for the research or activity supported by the grant;
  - (b) not otherwise reasonably available and accessible;
  - (c) of the type normally charged as a direct cost to sponsored agreements; and
  - (d) acquired in accordance with organizational practice.
2. General Purpose Equipment. Expenditures for general-purpose equipment are typically not eligible for support (see [PAPPG Chapter IX.D.2.b](#)).
3. Equipment Usage. The equipment must remain in use for the specific project for which it was obtained in accordance with 2 CFR § 200.313(c)(1), unless the provision in 2 CFR § 200.313(c)(4) applies.
4. Equipment Sharing. The equipment must be shared on other projects or programs in accordance with 2 CFR § 200.313(c)(1).
5. Property Management Standards. The grantee shall maintain a property management system that, at a minimum, meets the requirements of 2 CFR § 200.313(d). Because of increasing threats to information technology systems, the grantee is reminded that, under 2 CFR §§ 200.313(d)(3) and (4), "[a] control system must be developed to ensure adequate safeguards to prevent loss, damage, or theft of the property" and "[a]dequate maintenance procedures must be developed to keep the property in good condition."

This requirement imposes on the grantee a duty to adequately maintain and to insure adequate safeguards against the loss, damage, or theft of information technology equipment and systems purchased with NSF funds.

6. Inventory Reporting Requirements for NSF-owned Equipment.

(a) In the event that title to equipment is vested in the Federal Government (i.e., NSF), such property shall be marked, tagged or segregated in such a manner as to indicate clearly its ownership by the government. In accordance with the requirements of 2 CFR § 200.312(a), for all NSF-owned equipment having an original acquisition cost of \$5,000 or more, the grantee must submit an annual inventory report by NSF grant number of such property to the NSF Property Administrator, Division of Administrative Services (DAS). The report should include all NSF-owned equipment purchased or constructed, including land and buildings, under the grant or acquired by screening excess through the General Services Administration (GSA); and include the type of equipment or property, serial number, acquisition price, acquisition date and condition of the equipment. In the event that the grantee is in possession of NSF-owned equipment under multiple grants, the reporting must be specific to each NSF grant number.

The report also should include a description of Construction-in-Progress (CIP) and Work-in-Progress (WIP) items and construction costs incurred to date. CIP is defined as real property that is in the process of being manufactured or fabricated but is not yet complete. WIP is defined as equipment that is in the process of being manufactured or fabricated but is not yet complete. CIP and WIP consist of the costs of direct materials, direct labor, direct purchased services and indirect costs, including general and administrative and overhead costs. Costs coded as such should not be depreciated. The inventory should be submitted electronically to [fsrpts@nsf.gov](mailto:fsrpts@nsf.gov) and must be received by DAS no later than August 15 each year.

(b) A physical inventory of NSF-owned equipment shall be conducted every two years pursuant to 2 CFR § 200.313(d)(2). At the end of the grant, the grantee shall report the property to the Property Section for further agency utilization (See [PAPPG Chapter IX.D.4](#)).

7. Competition. The grantee shall not use equipment acquired with Federal funds to provide services to non-Federal outside organizations for a fee that is less than private companies charge for equivalent services, unless specifically authorized by Federal statute for as long as the Federal government retains an interest in the equipment in accordance with 2 CFR § 200.313(c)(3).

8. Right to Transfer Title.

(a) In accordance with 2 CFR § 200.313(e), NSF may identify items of equipment having an acquisition cost of \$5,000 or more where NSF reserves the right to transfer the title to the Federal Government or a third party named by the Federal Government at any time during the grant period.

(b) In cases where NSF elects to transfer the title, disposition instructions will be issued no later than 120 days after the end date of the NSF-supported project for which it was acquired.

## 7. Participant Support Costs

a. Participant support costs as defined in 2 CFR § 200.75 are direct costs for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants (but not employees) in connection with NSF-sponsored conferences. NSF prior written approval is required for any additional categories of participant support costs, such as incentives, gifts, souvenirs, t-shirts and/or memorabilia and the request must be submitted via use of NSF's electronic systems and NSF approval of such changes will be by an amendment to the grant. Grantees must account for participant support costs separately. Indirect costs (Facilities and Administrative Costs (F&A)) are not allowed on participant support costs (see [PAPPG Chapter II.C.2.g\(v\)](#)).

b. Funds provided for participant support may not be used by grantees for other categories of expense without specific NSF prior written approval. Such requests must be submitted electronically via use of NSF's electronic systems.

## 8. Significant Project Changes

Consistent with 2 CFR § 200.308, the grantee is required to obtain NSF prior written approval whenever there are significant changes in the project or its direction as stipulated below.

### a. *Transfer of the Project Effort (Subawards)*

1. NSF authorization to transfer a significant part of the research or substantive effort to another organization that has been disclosed in the proposal is not needed unless approval has been specifically withheld in the award notice.

2. If it becomes necessary to transfer a significant part of the research or effort after a grant has been made, notification of this intent should be submitted via use of NSF's electronic systems and must be electronically signed by an Authorized Organizational Representative (AOR). The request shall include a clear description of the work to be performed and a proposed budget (see [PAPPG Chapter VII.B.3](#) for additional information). NSF approval of such changes will be by an amendment to the grant.

3. The grantee remains responsible for monitoring of the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations and the terms and conditions of the subaward as outlined in 2 CFR § 200.331. This includes maintaining the necessary documentation on all subawards and making it available to NSF upon request. The grantee shall include subaward activities in the annual and final project reports that are submitted to NSF.

4. Consistent with the guidance in 2 CFR § 200.331, grantees must adhere to the requirements for pass-through entities in establishing and managing subawards issued under the grant. In addition, grantees shall ensure that the following articles, if applicable, flow down to all subrecipients, or are appropriately addressed in the subaward instrument: Articles 5, 7, 9, 10, 11, 12, 17, 18, 19, 20, 24, 26, 27, 28, 29, 30, 31, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 46, 48, 49, and 50. If the grantee issues contracts exceeding \$2,000 for construction, alteration or repair that are within the scope of the Acts found in 2 CFR § 200, Appendix II, "*Contract Provisions for Non-Federal Entity Contracts Under Federal Awards*," the appropriate clauses applicable to construction activities also will be included in applicable contracts.



b. *Changes in Objectives or Scope*

A proposed change in the phenomenon or phenomena under study or the objectives of the project stated in the proposal or agreed modifications thereto should be communicated via use of NSF's electronic systems. NSF approval of such changes will be by an amendment to the grant.

c. *Long-Term Disengagement or Change of Principal Investigator/Project Director (PI/PD) or co-PI/co-PD*

If a named Principal Investigator/Project Director or co-PI/co-PD plans to or becomes aware that he or she will: (1) devote substantially less effort to the work than anticipated in the approved proposal (defined in 2 CFR § 200.308(c)(iii) as a reduction of 25% or more in time devoted to the project); (2) sever his or her connection with the grantee; or (3) be disengaged from the project for a continuous period of more than 3 months, or otherwise relinquish active direction of the project, he or she shall advise the appropriate official at the grantee, who shall initiate action appropriate to the situation in accordance with the guidelines described in [PAPPG Chapter VII.B.2](#).

## 9. Procurement Standards

The grantee (including commercial organizations) is responsible for compliance with the procurement standards identified in 2 CFR § 200.318. The grantee also is responsible for ensuring that the provisions contained in Appendix II of 2 CFR § 200 are made a part of any contract whose award amount exceeds the simplified acquisition threshold (currently \$150,000).

See FAQ 200.110-6 of the [Frequently Asked Questions for The Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 CFR § 200](#). See also FAQ 200.320-2 regarding Methods of Procurement - Sole Source for Research.

## 10. Travel

a. *Allowability of Travel Expenses*

1. Expenses for transportation, lodging, subsistence and related items incurred by project personnel and by outside consultants employed on the project (see [PAPPG Chapter II.C.2.g\(iv\)](#)) who are in travel status on business related to an NSF-supported project are allowable as prescribed in the governing cost principles. Except as noted in paragraph b. below, the requirements for NSF prior written approval specified in 2 CFR § 200.474 are waived.

2. Except as provided in the governing cost principles, the difference between economy airfare and a higher-class airfare is unallowable. A train, bus or other surface carrier may be used in lieu of, or as a supplement to, air travel at the lowest first-class rate by the transportation facility used. If such travel, however, could have been performed by air, the allowance will not normally exceed that for jet economy airfare.

b. *Travel Support for Dependents of Key Project Personnel*

Travel support for dependents of key project personnel is allowable only under the conditions outlined in 2 CFR § 474(c)(2).

NSF prior written approval is required for travel costs for dependents and must be requested via use of NSF's electronic systems. NSF approval of such changes will be by an amendment to the grant.

c. *Use of US-Flag Air Carriers*

1. In accordance with the Fly America Act (49 USC 40118), any air transportation to, from, between, or within a country other than the US of persons or property, the expense of which will be assisted by NSF funding, must be performed by or under a code-sharing arrangement with a US-flag air carrier if service provided by such a carrier is available (see Comptroller General Decision B-240956, dated September 25, 1991). Tickets (or documentation for electronic tickets) must identify the US flag air carrier's designator code and flight number.

2. For the purposes of this requirement, US-flag air carrier service is considered available even though:

(a) comparable or a different kind of service can be provided at less cost by a foreign-flag air carrier;

(b) foreign-flag air carrier service is preferred by, or is more convenient for, NSF or traveler; or

(c) service by a foreign-flag air carrier can be paid for in excess foreign currency.

3. The following rules apply unless their application would result in the first or last leg of travel from or to the US being performed by a foreign-flag air carrier:

(a) a US-flag air carrier shall be used to destination or, in the absence of direct or through service, to the farthest interchange point on a usually traveled route.

(b) if a US-flag air carrier does not serve an origin or interchange point, a foreign-flag air carrier shall be used only to the nearest interchange point on a usually traveled route to connect with a US flag air carrier.

d. *Use of Foreign-Flag Air Carriers*

There are certain circumstances under which use of a foreign-flag air carrier is permissible. These circumstances are outlined below:

1. *Airline "Open Skies" Agreements:*

A foreign flag air carrier may be used if the transportation is provided under an air transportation agreement between the United States and a foreign government, which the Department of Transportation has determined meets the requirements of the Fly America Act. For information on "open skies" agreements in which the United States has entered, please refer to the General Services Administration's (GSA) website at <http://www.gsa.gov/portal/content/103191>.

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Note on US/European Union Open Skies Agreement

In 2007, the US entered into an "Open Skies" Agreement with the European Union ("EU"). This agreement was modified in June 2010. The current Agreement gives European Community airlines (airlines of Member States) the right to transport passengers and cargo on flights funded by the US government, when the transportation is between: (1) any two points outside the United States; or (2) a point in the United States and any point outside the United States that the EU airline is authorized to serve under the "Open Skies" Agreement.

In 2011, two significant changes were made to the US/EU Open Skies Agreement. First, EU airlines are now granted the right to transport civilian agency-funded passengers who are NOT eligible to travel on GSA Airline City Pair Contract fares (e.g., grantees) between a point in the United States and a point outside the United States even if there is a GSA Airline City Pair Contract fare in effect between the origin and destination points. An individual, however, who is traveling on a route for which there is a City Pair Contract fare in effect, *and who is eligible for such a fare* (e.g., Federal employee), is required to fly on a US carrier, absent another applicable exception.

Second, under the amended Agreement, EU airlines are now authorized to transport passengers between points in the United States and points outside the EU if the EU airline is authorized to serve the route under the Agreement. This includes flights that originate, arrive, or stop in the EU. Prior to this change, EU airlines were limited to flying passengers between points in the US and points in the EU.

2. *Involuntary Rerouting:* Travel on a foreign-flag carrier is permitted if a US-flag air carrier involuntarily reroutes the traveler via a foreign-flag air carrier, notwithstanding the availability of alternative US-flag air carrier service.

3. *Travel To and From the US on non-European Community Airlines*

Use of a non-European Community foreign-flag air carrier is permissible if the airport abroad is:

(a) the traveler's origin or destination airport, and use of US-flag air carrier service would extend the time in a travel status by at least 24 hours more than travel by a foreign-flag air carrier; or

(b) an interchange point, and use of US-flag air carrier service would increase the number of aircraft changes the traveler must make outside of the US by two or more, would require the traveler to wait four hours or more to make connections at that point, or would extend the time in a travel status by at least six hours more than travel by a foreign-flag air carrier.

4. *Travel Between Points Outside the US on non-European Community Airlines*

Use of a non-European Community foreign-flag air carrier is permissible if:

(a) travel by a foreign-flag air carrier would eliminate two or more aircraft changes en route;

(b) travel by a US-flag air carrier would require a connecting time of four hours or more at an overseas interchange point; or

(c) the travel is not part of the trip to or from the US, and use of a US-flag air carrier would extend the time in a travel status by at least six hours more than travel by a foreign-flag air carrier.

5. *Short Distance Travel.* For all short distance travel, regardless of origin and destination, use of a foreign-flag air carrier is permissible if the elapsed travel time on a scheduled flight from origin to destination airport by a foreign-flag air carrier is three hours or less and service by a US-flag air carrier would double the travel time.

## 11. Rearrangement and Reconversion Costs

a. Costs incurred for ordinary and normal rearrangement and reconversion of facilities that do not constitute construction (i.e., rearrangement and reconversion costs aggregating \$25,000 or less) to adapt space or utilities within a completed structure to accomplish the objectives of the grant, are allowable and approved, provided the:

1. building has a usable life consistent with project purposes and is architecturally suitable for conversion;
2. rearrangement and reconversion costs are essential to the project supported by the grant; and
3. space involved will be occupied by the project. In situations where the space is rented, in order for the costs of the rearrangement and reconversion to be allowed, the grantee must secure a lease for the length of the project.

b. Rearrangement and reconversion costs exceeding \$25,000 require NSF prior written approval via use of NSF's electronic systems. Appendix II of 2 CFR § 200 contains provisions that must be included in contracts made by the grantee.

## 12. Allowable Costs

a. The allowability of costs<sup>2</sup> and cost allocation methods for work performed under this grant, up to the amount specified in the grant, shall be determined in accordance with the governing cost principles as specified below and must conform with NSF policies, grant special provisions and grantee internal policies in effect on the start date of the grant.

b. The cost principles applicable to educational institutions, State, local and Indian Tribal governments and non-profit organizations (other than hospitals) can be found in 2 CFR § 200, Subpart E.

c. Separate guidance for hospitals can be found in 45 CFR Part 74, Appendix E, "Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts with Hospitals."

d. Separate guidance for for-profit organizations can be found in the Federal Acquisition Regulation, 48 CFR Part 31.

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<sup>2</sup> Consistent with 2 CFR § 200.453, for computing devices, charging as a direct cost is allowable for devices that are essential and allocable, but not solely dedicated, to the performance of the grant.

e. Certain prior approval requirements contained in the governing cost principles have been modified by Article 2.

### 13. Payments

a. Except as noted in [PAPPG Chapter VIII.C](#), NSF grantees are required to request payments electronically through the Award Cash Management Service (ACM\$). Under ACM\$, grantees must provide award level detail at the time of the payment request. Grantees should request payments in amounts necessary to meet their current needs, pursuant to the guidelines contained in 31 CFR Part 205. Unless otherwise specified in the grant, the grantee agrees to comply with all applicable Treasury regulations and National Science Foundation implementing and reporting procedures, which are outlined in [PAPPG Chapter VIII](#).

b. In accordance with 2 CFR § 200.305, where appropriate, grantees are required to maintain advances of Federal funds in interest-bearing accounts. Grantees may retain interest earned on amounts up to \$500 per year for administrative expenses. Any additional interest earned on Federal advance payments deposited in interest-bearing accounts must be remitted annually to the Department of Health and Human Services Payment Management System (PMS) through an electronic medium using either the Automated Clearing House (ACH) network or a Fedwire Funds Service payment. Instructions on submission of remittances can be found in [PAPPG Chapter VIII.D.3](#).

### 14. Continuing Grant Increments

Unless otherwise specified, each successive increment of a continuing grant will be funded at the level specified in the original award notice without a formal request from the grantee provided an annual project report has been received from the Principal Investigator(s) and accepted by the cognizant NSF Program Officer.

Continuing funding is contingent on (1) availability of funds; (2) satisfactory scientific/technical progress; and (3) any special conditions of the grant.

### 15. Project Reporting Requirements

#### a. *Annual Project Reports*

1. Submission Requirement. Annual project reports are required for both standard and continuing grants.<sup>3</sup>

2. Content of Annual Project Reports. The Research Performance Progress Report (RPPR), as implemented by NSF in Research.gov, should be used for preparation of the Annual Project Reports to address progress in all activities of the project, including any activities intended to address the Broader Impacts criterion that are not intrinsic to the research. The grantee shall include subaward activities in annual project reports that are submitted to NSF.

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<sup>3</sup> Submission of an "interim" report via [Research.gov](#) does not constitute compliance with the annual reporting requirement.

3. Timing of Annual Project Reports. Unless otherwise specified in the grant, annual project reports should be submitted electronically no later than 90 days prior to the end of the current budget period to allow adequate time for the cognizant NSF Program Officer to review and approve the report. As reflected in the Project Report System, the report is considered due during the 90 day period. The report becomes overdue **the day after the 90 day period ends.** It should be noted that the final annual report serves as the project's final report and must be submitted in accordance with paragraph b below.

Failure to submit timely reports will delay NSF review and processing of pending proposals and processing of additional funding and administrative actions, including, but not limited to, no-cost extensions for all identified PIs/PDs and co-PIs/co-PDs on a given grant. In the case of continuing grants, failure to submit timely reports may delay processing of funding increments.

b. *Final Project Report*

1. Submission Requirement. Unless otherwise specified in the grant, the final project report should be submitted electronically no later than 120 days following the end date of the grant. As reflected in the Project Report System, the report is considered due during the 120 day period. The report becomes overdue **the day after the 120 day period ends.** Note, however, that standard grants made prior to January 25, 2016 retain the requirement to submit final project reports no later than 90 days following the end date of the grant.

2. Content of Final Project Report. The Research Performance Progress Report, as implemented by NSF in Research.gov, also should be used for preparation of the Final Project Report to address progress in all activities of the project, including any activities intended to address the Broader Impacts criterion that are not intrinsic to the research. The grantee shall include subaward activities in final project reports that are submitted to NSF.

3. Additional Requirements. The grantee also shall provide to the cognizant NSF Program Officer, no later than 120 days following the end date of the grant, any unique reports or other end items specified in the grant (e.g., special cost sharing reports), including any reporting requirements set forth in the applicable program solicitation referenced in the grant as being directly related to either the grant or the administration of the grant.

c. *Project Outcomes Report for the General Public*

No later than 120 days following the end date of the grant, a project outcomes report for the general public must be submitted electronically via Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted electronically by NSF exactly as it is submitted. For information about the content of the report, see [PAPPG Chapter VII.D.3](#). Note, however, that standard grants made prior to January 25, 2016 retain the requirement to submit project outcomes reports no later than 90 days following the end date of the grant.

## 16. Expenditure Reports

Grantees must submit final payment requests through the Award Cash Management Service no later than 120 days after the end date of the grant. This requirement applies to all current grants and funding amendments to existing NSF grants, as well as to all new NSF grants.

NSF uses the payment request entries in the Award Cash Management Service (ACM\$) to collect the final financial data for awards paid through that system. No additional interim or final financial reporting is required.

Grantees must submit final payment requests through ACM\$ **no later than 120 days** after the grant end date. For instructions regarding final disbursement reporting, see [PAPPG Chapter VIII.E](#).

## **17. Information Collection**

Information collection activities performed under this grant are the responsibility of the grantee, and NSF support of the project does not constitute NSF approval of the survey design, questionnaire content or information collection procedures. The grantee shall not represent to respondents that such information is being collected for or in association with the National Science Foundation or any other Government agency without the specific written approval of such information collection plan or device by the Foundation. This requirement, however, is not intended to preclude mention of NSF support of the project in response to an inquiry or acknowledgment of such support in any publication of this information.

## **18. Responsible Conduct of Research**

In accordance with Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (42 USC 1862o–1) NSF requires that grantees must have a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research (RCR) to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research. Training plans are subject to review, upon request.

Grantees must designate one or more persons to oversee compliance with the RCR training requirement. Grantees are responsible for verifying that undergraduate students, graduate students and postdoctoral researchers supported by NSF to conduct research have received training in the responsible and ethical conduct of research, in accordance with the plan the grantee has put in place for their organization.

Grantees shall ensure that these RCR requirements flow down to all subrecipients, or are otherwise appropriately addressed in the subaward.

## **19. Reporting Subawards and Executive Compensation**

**The URL referenced in b.2.(a) below has changed to: <http://www.sam.gov>.**

In accordance with the Office of Management and Budget guidance published in the Federal Register (FR) September 14, 2010 on *Requirements for Federal Funding Accountability and Transparency Act Implementation*, grantees must comply with the following award term, contained in 75 FR 22705:

a. *Reporting of first-tier subawards*

1. *Applicability.* Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e of this award term).

2. *Where and when to report*

(a) You must report each obligating action described in paragraph a.1. of this award term to [www.fsr.gov](http://www.fsr.gov).

(b) For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at [www.fsr.gov](http://www.fsr.gov) specify.

b. *Reporting Total Compensation of Recipient Executives*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if:

(a) the total Federal funding authorized to date under this award is \$25,000 or more;

(b) in the preceding fiscal year, you received—

(i) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(ii) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(c) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at: <http://www.sec.gov/answers/excomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph b.1. of this award term:

(a) As part of your registration profile at [www.ccr.gov](http://www.ccr.gov).

(b) By the end of the month following the month in which this award is made, and annually thereafter.



c. *Reporting of Total Compensation of Subrecipient Executives*

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if:

(a) in the subrecipient's preceding fiscal year, the subrecipient received—

(i) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(ii) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report subrecipient executive total compensation described in paragraph c.1. of this award term:

(a) To the recipient.

(b) By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

1. subawards, and

2. the total compensation of the five most highly compensated executives of any subrecipient.

e. *Definitions*

For purposes of this award term:

1. Entity means all of the following, as defined in 2 CFR part 25:

- (a) A Governmental organization, which is a State, local government, or Indian tribe;
  - (b) A foreign public entity;
  - (c) A domestic or foreign nonprofit organization;
  - (d) A domestic or foreign for-profit organization;
  - (e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
2. Executive means officers, managing partners, or any other employees in management positions.
3. Subaward:
- (a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
  - (b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR § 200.330).
  - (c) A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.
4. Subrecipient means an entity that:
- (a) Receives a subaward from you (the recipient) under this award; and
  - (b) Is accountable to you for the use of the Federal funds provided by the subaward.
5. Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):
- (a) *Salary and bonus.*
  - (b) *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
  - (c) *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
  - (d) *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.
  - (e) *Above-market earnings on deferred compensation which is not tax-qualified.*

(f) Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

## 20. System for Award Management and Universal Identifier Requirements

**The Central Contractor Registration (CCR) has become the System for Award Management (SAM). The URL has changed to: <https://www.sam.gov>. All requirements related to CCR mentioned in the Article below apply to and must be completed in SAM.**

In accordance with the Office of Management and Budget guidance published in the Federal Register (FR) September 14, 2010 on *Financial Assistance Use of Universal Identifier and Central Contractor Registration*, grantees must comply with the following award term, contained in 75 FR 22706:

a. *Requirement for Central Contractor Registration (CCR)*. Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

b. *Requirement for Data Universal Numbering System (DUNS) numbers*. If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph c. of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.

2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

c. *Definitions*. For purposes of this award term:

1. Central Contractor Registration (CCR) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).

2. Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).

3. Entity, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:

(a) A Governmental organization, which is a State, local government, or Indian tribe;

(b) A foreign public entity;

- (c) A domestic or foreign nonprofit organization;
- (d) A domestic or foreign for-profit organization; and
- (e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

4. Subaward:

- (a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
- (b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR § 200.330).
- (c) A subaward may be provided through any legal agreement, including an agreement that you consider a contract.

5. Subrecipient means an entity that:

- (a) Receives a subaward from you under this award; and
- (b) Is accountable to you for the use of the Federal funds provided by the subaward.

## 21. Federal Tax Obligations

**Article 21 applies only to grants that have cumulative budgets that exceed \$5,000,000.**

In accordance with the *Commerce, Justice, Science and Related Agencies Appropriations Act of 2012*, the grantee affirms that they:

- (1) have filed all required Federal tax returns;
- (2) have not been convicted of a criminal offense under the Internal Revenue Code of 1986; and
- (3) have not been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default, or the assessment is the subject of a non-frivolous administrative or judicial proceeding.

## 22. Unpaid Federal Tax Liability

**Article 22 applies only to grantees that are corporations.**

In accordance with the *Commerce, Justice, Science and Related Agencies Appropriations Act of 2012*, the grantee affirms that the corporation has no unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or

lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

### **23. Criminal Convictions**

**Article 23 applies only to grantees that are corporations.**

In accordance with the *Commerce, Justice, Science and Related Agencies Appropriations Act of 2012*, the grantee affirms that the corporation has not been convicted of a felony criminal violation under any Federal law.

### **24. Copyrighted Material**

#### *a. Definition*

Subject writing means any material that:

1. is or may be copyrighted under Title 17 of the USC; and
2. is produced by the grantee or its employees in the performance of work under this grant.

Subject writings include such items as reports, books, journal articles, software, databases, sound recordings, videotapes and videodiscs.

#### *b. Copyright Ownership, Government License*

Except as otherwise specified in the grant or by this paragraph, the grantee may own or permit others to own copyright in all subject writings. The grantee agrees that if it or anyone else does own copyright in a subject writing, the Federal government will have a nonexclusive, nontransferable, irrevocable, royalty-free license to exercise or have exercised for or on behalf of the US throughout the world all the exclusive rights provided by copyright. Such license, however, will not include the right to sell copies or phonorecords of the copyrighted works to the public.

#### *c. Grants Affected by International Agreements*

If the grant indicates it is subject to an identified international agreement or treaty, NSF can direct the grantee to convey to any foreign participant or otherwise dispose of such rights to subject writings as are required to comply with that agreement or treaty. In such cases, the standard clauses for Copyrighted Material or Patents Rights will be modified through the addition of the following:

“This project is supported under the cooperative program listed below. Your rights in inventions, writings and data may be affected.”

The applicable agreement or treaty will be identified immediately beneath that sentence.

d. *Grantee Action to Protect Government Interests*

The grantee agrees to acquire, through written agreement or an employment relationship, the ability to comply with the requirements of the preceding paragraphs and, in particular, to acquire the ability to convey rights in a subject writing to a foreign participant if directed by NSF under the previous paragraph. The grantee further agrees that any transfer of copyright or any other rights to a subject writing, by it or anyone whom it has allowed to own such rights, will be made subject to the requirements of this article.

## 25. Public Access to Copyrighted Material

**NSF's Public Access Policy applies to awards, funded in whole or in part, as a result of proposals submitted, or due, on or after January 25, 2016. NSF's Public Access Policy may be viewed at [http://www.nsf.gov/news/special\\_reports/public\\_access/](http://www.nsf.gov/news/special_reports/public_access/).**

NSF's policy on public access to copyrighted material (Public Access Policy) reflects the Foundation's commitment to making certain that, to the extent possible, the American public, industry and the scientific community have access to the results of federally funded scientific research. Pursuant to this policy, grantees must ensure that all articles in peer-reviewed scholarly journals and papers in juried conference proceedings:

- are deposited in a public access compliant repository (as identified in the Public Access Policy);
- are available for download, reading and analysis within 12 months of publication;
- possess a minimum set of machine-readable metadata elements as described in the Public Access Policy;
- are reported in annual and final reports with a persistent identifier.

Either the final printed version or the final peer-reviewed manuscript is acceptable for deposit.

## 26. Program Income

a. *Definition*

The following provisions implement applicable portions of 2 CFR § 200.307. Program income means gross income earned by the grantee that is directly generated by a supported activity or earned as a result of the grant during the period of performance. Program income includes, but is not limited to, income from fees for services performed, the use of rental or real or personal property acquired under the grant, the sale of commodities or items fabricated under the grant, license fees and royalties on patents and copyrights and principal and interest on loans made with grant funds. Interest earned on advances of Federal funds is not program income.

Except as otherwise provided in Federal statutes, regulations, or the terms and conditions of the grant, program income does not include rebates, credits, discounts and interest earned on any of them. Note that registration fees collected under NSF-supported conferences are considered program income.

b. *NSF Policy*1. *Standard Treatment*

Unless otherwise specified in the grant, program income received or accruing to the grantee during the period of the grant is to be retained by the grantee, added to the funds committed to the project by NSF, and thus used to further project objectives. The grantee has no obligation to NSF with respect to program income received beyond the period of the grant. The grantee also shall have no obligation to NSF with respect to program income earned from license fees and royalties for copyrighted material, patents, patent applications, trademarks and inventions produced under a grant (see [PAPPG Chapter VIII.D.4](#)). However, Patent and Trademark Amendments (35 USC 18) shall apply to inventions made under a grant. See also FAQ 200.307.1 of the [Frequently Asked Questions for The Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 CFR § 200](#) regarding Fees and Royalties and Bayh-Dole.

Efforts should be made to avoid having unexpended program income remaining at the end of the grant. Program income earned during the project period should be expended prior to requesting reimbursement against the grant. In the event a grantee has unexpended program income remaining at the end of the grant, it must be remitted to NSF by crediting costs otherwise chargeable against the grant. If it is not possible to record the credit via ACM\$, the excess program income must be remitted to NSF electronically or by check payable to the National Science Foundation.

2. *Special Treatment*

In exceptional circumstances, NSF may approve use of a special grant provision to restrict or eliminate a grantee's control of income earned through NSF-supported activities if it determines that this would best serve the purposes of a particular program or grant. The special provisions may require treatment of the program income via use of the deductive method, the Federal share of program income be kept in a separate account, or reported on and/or remitted for such periods as may be reasonable under the circumstances.

If, in accordance with the grant terms and conditions program income is designated for deductive treatment, it must be remitted to NSF by crediting costs otherwise chargeable against the grant. Program Income in excess of the grant will be remitted to NSF electronically or by check payable to the National Science Foundation.

c. *Records Retention*

The grantee is required to retain appropriate financial and other records relating to program income earned during the grant period of performance and for three years beyond the date of submission of the final financial disbursements in ACM\$. For instructions regarding final disbursement reporting, see [PAPPG Chapter VIII.E](#).

d. *Reporting Requirements*

On an annual basis, grantees are required to submit a Program Income Reporting Worksheet to NSF in order to report program income earned/expended for any of their grants during the previous twelve months or to validate that they did not earn/expend program income for any of their grants during the applicable period. The Program Income Reporting Worksheet utilizes the standard OMB-approved Government-wide data elements from the Program Income section of the Federal Financial Report (SF 425) and is due 45 days after the end of the Federal Fiscal Year. The Program Income Reporting Worksheet and related instructions are available through Research.gov (<http://research.gov/programincome>).

Failure to report program income or to validate that no program income was earned or expended could result in suspension of future grant payments.

**27. Publications**

a. *Acknowledgment of Support*

The grantee is responsible for assuring that an acknowledgment of NSF support:

1. is made in any publication (including World Wide Web pages) of any material based on or developed under this project, in the following terms:

"This material is based upon work supported by the National Science Foundation under Grant No. (NSF grant number)."

2. is orally acknowledged during all news media interviews, including popular media such as radio, television and news magazines.

b. *Disclaimer*

The grantee is responsible for assuring that every publication of material (including World Wide Web pages) based on or developed under this grant, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer:

"Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation."

c. *Copies for NSF*

The grantee is responsible for assuring that the cognizant NSF Program Officer is provided access to, either electronically or in paper form, a copy of every publication of material based on or developed under this grant, clearly labeled with the grant number and other appropriate identifying information, promptly after publication.



## 28. Patent Rights<sup>4</sup>

The following Patent Rights article (implementing the Bayh-Dole Act, [35 USC § 200 et seq.] shall apply to all awards for scientific or engineering research unless special provisions have been negotiated. The grantee shall include this article in all subawards for scientific or engineering research activities.

### a. Definitions

1. INVENTION means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the USC, to any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 USC § 2321 et seq.)

2. SUBJECT INVENTION means any invention of the grantee conceived or first actually reduced to practice in the performance of work under this grant, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d)) must also occur during the period of performance.

3. PRACTICAL APPLICATION means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

4. MADE when used in relation to any invention means the conception or first actual reduction to practice of such invention.

5. SMALL BUSINESS FIRM means a small business concern as defined at section 2 of Pub. L. 85-536 (15 USC 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this article, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

6. NON-PROFIT ORGANIZATION means a domestic university or other institution of higher education or an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 USC § 501(c)) and exempt from taxation under Section 501(a) of the Internal Revenue Code (26 USC § 501(a)) or any domestic non-profit scientific or educational organization qualified under a State non-profit organization statute.

7. STATUTORY PERIOD means the one-year period before the effective filing date of a claimed invention during which exceptions to prior art exist per 35 USC 102(b) as amended by the Leahy-Smith America Invents Act, Public Law 112-29.

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<sup>4</sup> Grantees are reminded that, in view of the US Supreme Court decision in *Stanford v. Roche*, employee assignment agreements should include a present conveyance of rights ("I hereby assign" rather than a promise or intent to assign) in order to effectively convey patent rights to the institution, allowing the institution to meet its responsibility under the Bayh-Dole Act to provide the agency with a license of patented inventions.

8. CONTRACTOR means any person, small business firm or nonprofit organization, or, as set forth in section 1, paragraph (b)(4) of Executive Order 12591, as amended, any business firm regardless of size, which is a party to a funding agreement.

b. *Allocation of Principal Rights*

The grantee may retain the entire right, title and interest throughout the world to each subject invention subject to the provisions of this Patent Rights article and 35 USC Part 203. With respect to any subject invention in which the grantee retains title, the Federal Government shall have a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the US the subject invention throughout the world. If the award indicates it is subject to an identified international agreement or treaty, the National Science Foundation (NSF) also has the right to direct the grantee to convey to any foreign participant such patent rights to subject inventions as are required to comply with that agreement or treaty.

c. *Invention Disclosure, Election of Title and Filing of Patent Applications by Grantee*

1. The grantee will disclose each subject invention to NSF within two months after the inventor discloses it in writing to grantee personnel responsible for the administration of patent matters. The disclosure to NSF shall be in the form of a written report and shall identify the grant under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding of the nature, purpose, operation and, to the extent known, the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to NSF, the grantee will promptly notify NSF of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the grantee.

2. The grantee will elect in writing whether or not to retain title to any such invention by notifying NSF within two years of disclosure to NSF. However, in any case where a patent, a printed publication, public use, sale or other availability to the public has initiated the one-year statutory period wherein valid patent protection can still be obtained in the US, the period for election of title may be shortened by NSF to a date that is no more than 60 days prior to the end of the statutory period.

3. The grantee will file its initial patent application on an invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the US after a publication, on sale, or public use. If the grantee files a provisional application as its initial patent application, it shall file a non-provisional application within 10 months of the filing of the provisional application. The grantee will file patent applications in additional countries or international patent offices within either ten months of the first filed patent application, or six months from the date when permission is granted by the Commissioner of Patents to file foreign patent applications when such filing has been prohibited by a Secrecy Order.

4. For any subject invention with NSF and grantee co-inventors, where NSF determines that it would be in the interest of the government, pursuant to 35 USC 207(a)(3), to file an initial patent application on the subject invention, NSF, at its discretion and in consultation with the

grantee, may file such application at its own expense, provided that the grantee retains the ability to elect title pursuant to 35 USC 202(a).

5. Requests for extension of the time for disclosure to NSF, election and filing under subparagraphs 1., 2. and 3 may, at the discretion of NSF, be awarded. When a grantee has requested an extension for filing a non-provisional application after filing a provisional application, a one-year extension will be granted unless NSF notifies the contractor within 60 days of receiving the request.

d. *Conditions When the Government May Obtain Title*

The grantee will convey to NSF, upon written request, title to any subject invention:

1. if the grantee fails to disclose or elect the subject invention within the times specified in paragraph c. above, or elects not to retain title;
2. in those countries in which the grantee fails to file patent applications within the times specified in paragraph c. above, provided, however, that if the grantee has filed a patent application in a country after the times specified in paragraph (c) of this article, but prior to its receipt of the written request of NSF, the grantee shall continue to retain title in that country; or
3. in any country in which the grantee decides not to continue the prosecution of any non-provisional patent application for, to pay a maintenance, annuity or renewal fee on, or defend in a reexamination or opposition proceeding on, a patent on a subject invention.

e. *Minimum Rights to Grantee*

1. The grantee will retain a non-exclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the grantee fails to disclose the subject invention within the times specified in paragraph c. above. The grantee's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the grantee is a party and includes the right to award sublicenses of the same scope to the extent the grantee was legally obligated to do so at the time the award was made. The license is transferable only with the approval of NSF except when transferred to the successor of that part of the grantee's business to which the invention pertains.
2. The grantee's domestic license may be revoked or modified by NSF to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR Part 404. This license will not be revoked in that field of use or the geographical areas in which the grantee has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at discretion of NSF to the extent the grantee, its licensees or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.
3. Before revocation or modification of the license, NSF will furnish the grantee a written notice of its intention to revoke or modify the license, and the grantee will be allowed thirty days (or such other time as may be authorized by NSF for good cause shown by the grantee) after the notice to show cause why the license should not be revoked or modified. The grantee has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 concerning the

licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

f. *Grantee Action to Protect Government's Interest*

1. The grantee agrees to execute or to have executed and promptly deliver to NSF all instruments necessary to: (i) establish or confirm the rights the Government has throughout the world in those subject inventions for which the grantee retains title; and (ii) convey title to NSF when requested under paragraph d. above, and to enable the Government to obtain patent protection throughout the world in that subject invention.

2. The grantee agrees to require, by written agreement, its employees, other than clerical and non-technical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the grantee each subject invention made under this grant in order that the grantee can comply with the disclosure provisions of paragraph c. above, to assign to the grantee the entire right, title and interest in and to each subject invention made under the grant, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information requested by paragraph c.1 above. The grantee shall instruct such employees through the employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to US or foreign statutory bars.

3. For each subject invention, the grantee will no less than 60 days prior to the expiration of the statutory deadline, notify NSF of any decision: not to continue the prosecution of a non-provisional patent application; not to pay a maintenance, annuity or renewal fee; not to defend in a reexamination or opposition proceeding on a patent, in any country; to request, be a party to, or take action in a trial proceeding before the Patent Trial and Appeals Board of the US Patent and Trademark Office, including but not limited to post-grant review, review of a business method patent, *inter partes* review, and derivation proceeding; or to request, be a party to, or take action in a non-trial submission of art or information at the US Patent and Trademark Office, including but not limited to a pre-issuance submission, a post-issuance submission, and supplemental.

4. The grantee agrees to include, within the specification of any US patent application and any patent issuing thereon covering a subject invention, the following statement:

"This invention was made with Government support under (identify NSF grant number) awarded by the National Science Foundation. The Government has certain rights in this invention."

5. The grantee or its representative will complete, execute and forward to NSF a confirmation of a License to the US Government and the page of a United States patent application that contains the Federal support clause within two months of filing any domestic or foreign patent application.

g. *Subawards*

1. The grantee will include this Patent Rights article, suitably modified to identify the parties, in all subawards, regardless of tier, for experimental, developmental or research work.

The subawardee will retain all rights provided for the grantee in this Patent Rights article, and the grantee will not, as part of the consideration for awarding the subaward, obtain rights in the subawardees' subject inventions.

2. In the case of subawards, at any tier, when the prime award by NSF was a contract (but not a cooperative agreement), NSF, subawardee and contractor agree that the mutual obligations of the parties created by this Patent Rights article constitute a contract between the subawardee and the Foundation with respect to those matters covered by this Patent Rights article.

h. *Reporting on Utilization of Subject Inventions*

The grantee agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the grantee or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the grantee and such other data and information as NSF may reasonably specify. The grantee also agrees to provide additional reports in connection with any march-in proceeding undertaken by NSF in accordance with paragraph j. of this Patent Rights article. As required by 35 USC § 202(c)(5), NSF agrees it will not disclose such information to persons outside the Government without the permission of the grantee.

i. *Preference for United States Industry*

Notwithstanding any other provision of this Patent Rights article, the grantee agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the US unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the US. However, in individual cases, the requirement for such an agreement may be waived by NSF upon a showing by the grantee or its assignee that reasonable but unsuccessful efforts have been made to award licenses on similar terms to potential licensees that would be likely to manufacture substantially in the US or that under the circumstances domestic manufacture is not commercially feasible.

j. *March-in Rights*

The grantee agrees that with respect to any subject invention in which it has acquired title, NSF has the right in accordance with procedures at 37 CFR § 401.6 and NSF regulations at 45 CFR § 650.13 to require the grantee, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances and if the grantee, assignee or exclusive licensee refuses such a request, NSF has the right to grant such a license itself if NSF determines that such action is necessary:

1. because the grantee or assignee has not taken or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
2. to alleviate health or safety needs which are not reasonably satisfied by the grantee, assignee, or their licensees;

3. to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the grantee, assignee, or licensee; or

4. because the agreement required by paragraph i. of this Patent Rights article has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the US is in breach of such agreement.

k. *Special Provisions for Grants with Non-profit Organizations*

If the grantee is a nonprofit organization, it agrees that:

1. rights to a subject invention in the US may not be assigned without the approval of NSF, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the grantee;

2. the grantee will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when NSF deems it appropriate) when the subject invention is assigned in accordance with 35 USC § 202(e) and 37 CFR § 401.10;

3. the balance of any royalties or income earned by the grantee with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific or engineering research or education; and

4. it will make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business firms and that it will give preference to a small business firm if the grantee determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided that the grantee is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the grantee. However, the grantee agrees that NSF may review the grantee's licensing program and decisions regarding small business applicants, and the grantee will negotiate changes to its licensing policies, procedures or practices with NSF when NSF's review discloses that the grantee could take reasonable steps to implement more effectively the requirements of this paragraph k.4. In accordance with 37 CFR 401.7, NSF or the grantee may request that the Secretary review the grantee's licensing program and decisions regarding small business applicants.

l. *Communications*

All communications required by this Patent Rights article must be submitted through the [iEdison Invention Information Management System](#) maintained by the National Institutes of Health unless NSF prior written permission for another form of submission is obtained from the Patent Assistant at [patents@nsf.gov](mailto:patents@nsf.gov) or at Office of the General Counsel, National Science Foundation, 2415 Eisenhower Avenue, Alexandria, VA 22314.

## 29. Cost Sharing and Cost Sharing Records

### a. *General*

1. The grantee must cost share in accordance with any amount specified on Line M of the grant budget. Cost sharing participation in other projects may not be counted towards meeting the specific cost sharing requirements of the grant, and must come from non-Federal sources.
2. Should the grantee become aware that it may be unable to provide the cost sharing of at least the amount identified on Line M of the NSF grant budget, it must: a) immediately provide written notification to the cognizant NSF Grants Officer of the situation; and b) indicate steps it plans to take to secure replacement cost sharing; or c) indicate the plans it has to either continue or phase out the project in the absence of the approved level of cost sharing.
3. Should NSF agree to the organization's proposed plans, the cognizant NSF Grants Officer will modify the grant accordingly, including, if appropriate, reducing the amount of NSF support. Should the organization's plans be unacceptable to NSF, the grant may be subject to termination. NSF modifications to proposed cost sharing revisions are made on a case-by-case basis.
4. Failure by the organization to notify NSF, in accordance with paragraph 2. above, may result in the disallowance of some or all of the costs charged to the grant; the subsequent recovery by NSF of some or all of the NSF funds provided under the grant; possible termination of the grant; and may constitute a violation of the terms of the grant so serious as to provide grounds for subsequent suspension or debarment.

### b. *Cost Sharing Records*

The grantee must maintain records of all project costs that are claimed by the grantee as cost sharing as well as records of costs to be paid by the Government. Such records are subject to audit. Acceptable forms of cost sharing contributions are those that meet the criteria identified in 2 CFR § 200.306. Unless otherwise specified in the grant, approval is given to include unrecovered indirect costs (also known as facilities and administrative costs for colleges and universities) as part of cost sharing or matching contributions. If the grantee's cost participation includes in-kind contributions, the basis for determining the valuation for volunteer services and donated property must be documented.

### c. *Cost Sharing Reports*

The amount of mandatory cost sharing must be documented (on an annual and final basis), certified by the Authorized Organizational Representative, and reported to the cognizant NSF Program Officer via use of NSF's electronic systems. Such notifications must be submitted no later than 90 days prior to the end of the current budget period to meet the annual notification requirement, and no later than 120 days following the end date of the grant to meet the final notification requirement. The cost share notification is considered due during the 90 or 120 day period respectively. The notification becomes overdue **the day after the respective 90 or 120 day period ends.** Note, however, that standard grants made prior to January 25, 2016 retain the requirement to submit final cost sharing reports no later than 90 days following the end date of the grant.

**30. Audit and Records**

a. Financial records, supporting documents, statistical records and other records pertinent to this grant must be retained by the grantee for a period of three years from grant financial closeout as described in [PAPPG Chapter VII.E](#), except as noted in 2 CFR § 200.333.

b. Grantees, shall arrange for the conduct of audits as required by 2 CFR § 200 Subpart F. They shall provide copies of the reports of these audits to the Federal Audit Clearinghouse (see 2 CFR § 200.512(b)). Any Federal audit of this project deemed necessary by NSF shall build upon the results of such audit(s).

c. All grants issued by NSF meet the definition of "Research and Development" (R&D) at 2 CFR § 200.87. As such, auditees should identify NSF grants as part of the R&D cluster on the Schedule of Expenditures of Federal Awards (SEFA). The auditor should test NSF grants for compliance as instructed in Part V, Clusters of Programs. NSF recognizes that some grants may have another classification for purposes of indirect costs. The auditor is not required to report the disconnect (i.e., the grant is classified as R&D for audit purposes but non-research for indirect cost rate purposes), unless the auditee is charging indirect costs at a rate other than the rate(s) specified in the grant document(s).

**31. Site Visits**

NSF, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by NSF on the premises of the grantee or a subrecipient under a grant, the grantee shall provide and shall require its subrecipients to provide all reasonable facilities and assistance for the safety and convenience of the NSF representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner that will not unduly delay the work.

**32. Suspension or Termination**

a. Any suspension or termination action taken by NSF must be issued by a cognizant NSF Grants Officer and will be in accordance with this article and [PAPPG Chapter XII.A](#).

b. The grant may be suspended or terminated in whole or in part in any of the following situations by:

1. NSF when the grantee fails to comply with the terms and conditions of the grant;
2. NSF when the Foundation has cause;
3. NSF when ordered by the Deputy Director under NSF's Regulation on Research Misconduct [45 CFR Part 689];
4. mutual agreement of NSF and the grantee; or
5. the grantee on written notice to NSF setting forth the reasons for such action, the effective date, and, in the case of partial termination, the portion to be terminated or suspended (with the understanding that if NSF determines that the unterminated portion will not accomplish the purposes of the grant, it may suspend or terminate the entire grant).



c. Normally, action by NSF to suspend or terminate a grant will be taken only after the grantee has been informed by NSF of any deficiency on its part and given an opportunity to correct it; but NSF may immediately suspend or terminate the grant without notice when it believes such action is reasonable to protect the interests of the Government.

d. No costs incurred during a suspension period or after the effective date of a termination will be allowable, except those costs which, in the opinion of NSF, the grantee could not reasonably avoid or eliminate, or which were otherwise authorized by the suspension or termination notice, provided such costs would otherwise be allowable under the terms of the grant and the governing cost principles.

e. Within 30 days of the termination date, the grantee will furnish a summary of progress under the grant and an itemized accounting of costs incurred prior to the termination date or pursuant to d, above. Final allowable costs under a termination settlement shall be in accordance with the terms of the grant, including this article, and the governing cost principles, giving due consideration to the progress under the grant. In no event will the total of NSF payments under a terminated grant exceed the grant amount, or the NSF pro rata share of the total project costs when cost sharing was anticipated, whichever is less.

f. When an NSF grant is terminated or partially terminated, both NSF and the grantee remain responsible for compliance with the requirements in 2 CFR §§ 200.343 Closeout and 200.344 Post-closeout adjustments and continuing responsibilities.

g. A notice of termination other than by mutual agreement and/or the final settlement amount may be subject to review pursuant to Article 33.

h. NSF will report grant terminations to the OMB-designated integrity and performance system in accordance with Federal regulation, but only after the grantee has had an opportunity to exhaust the review procedures contained in [PAPPG Chapter XII.B](#).

### **33. Termination Review Procedure**

a. A request for review of a notice of termination or settlement should be addressed to the Division Director, Division of Grants and Agreements (DGA), National Science Foundation, 2415 Eisenhower Avenue, Alexandria, VA, 22314. It must be postmarked no later than 30 days after the date of the letter notifying the grantee of the termination or settlement.

b. The request for review must contain a full statement of the grantee's position and the pertinent facts and reasons in support of such position.

c. Review of a notice of termination or settlement will be conducted in accordance with [PAPPG Chapter XII.B.3](#).

d. Pending resolution of the request for review, the notice of termination shall remain in effect.

### **34. Non-Discrimination Statutes**

a. The grant is subject to the provisions of Title VI of the Civil Rights Act of 1964 [42 USC §§ 2000d et seq.], Title IX of the Education Amendments of 1972 [20 USC §§ 1681 et seq.], the

Rehabilitation Act of 1973 [29 USC § 794], the Age Discrimination Act of 1975 [42 USC §§ 6101 et seq], Equal Employment Opportunity [E.O. 11246], Limited English Proficiency (LEP) [E.O. 13166] and all regulations and policies issued by NSF pursuant to these statutes. Specifically, in accordance with these statutes, regulations and policies, no person on the basis of race, color, national origin, sex, disability, or age shall be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under the grant.

b. By electronically signing a proposal, the Authorized Organizational Representative is providing the requisite Certification of Compliance with National Science Foundation Nondiscrimination Regulations and Policies. This Nondiscrimination Certification sets forth the nondiscrimination obligations with which all grantees must comply.<sup>5</sup> These obligations also apply to subrecipients and contractors under the grant. The grantee, therefore, shall obtain the NSF Nondiscrimination Certification from each organization that applies to be or serves as a subrecipient or contractor under the grant (for other than the provision of commercially available supplies, materials, equipment or general support services) prior to entering into the arrangement. Additional information may be found in [PAPPG Chapter XI.A](#).

### 35. Reporting Classifiable Information

NSF grants are intended for unclassified, publicly releasable research. The grantee will not be granted access to classified information. NSF does not expect that the results of the research project will involve classified information.

If, however, in conducting the activities supported under a grant, the PI/PD or co-PI/co-PD is concerned that any of the research results involve potentially classifiable information that may warrant Government restrictions on the dissemination of the results, the PI/PD or co-PI/co-PD should promptly notify the cognizant NSF Program Officer.

### 36. Animal Welfare

a. Any grantee performing research on vertebrate animals<sup>6</sup> shall comply with the Animal Welfare Act [7 USC §§ 2131 et seq.] and the regulations promulgated thereunder by the Secretary of Agriculture [9 CFR §§ 1.1-4.11] pertaining to the humane care, handling and treatment of vertebrate animals held or used for research, teaching or other activities supported by Federal grants. The grantee is expected to ensure that the guidelines described in the National Academies of Science, Engineering and Medicine (NASEM) Publication, "*Guide for the Care and Use of Laboratory Animals*" are followed and to comply with the *Public Health Service Policy and Government Principles Regarding the Care and Use of Animals* (included as Appendix D to the NASEM Guide). Further guidance on the use of vertebrate animals in NSF funded projects can be found in [PAPPG Chapter XI.B.3](#).

b. Effective October 1, 2015, grantees must include NSF-supported activities with live vertebrate animals as covered activities in their Office of Laboratory Animal Welfare (OLAW) Animal Welfare Assurance. Further, they must promptly report situations involving NSF-supported animal activities to OLAW as required by the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals

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<sup>5</sup> The complete text of the Nondiscrimination Certification is available electronically in [PAPPG Chapter II, Exhibit II-6](#).

<sup>6</sup> In addition to vertebrate animals covered by the Animal Welfare Act, the requirements specified in this Article also are extended to rats, birds and mice.

(<http://grants.nih.gov/grants/olaw/references/phspol.htm>) Section IV.F.3. The cognizant NSF Program Officer also should be notified.

c. Any changes to, or lapses in, the Institutional Animal Care and Use Committee approved animal use protocols associated with an NSF grant should be reported promptly by the grantee to the cognizant NSF Program Officer.

d. In the event the grantee's multi-project Assurance is cancelled or lapses, the grantee must immediately notify the cognizant NSF Grants Officer(s) identified in the award notice.

Research facilities subject to the Animal Welfare Act using or intending to use live animals in research and who receive Federal funding are required to register the facility with the Animal and Plant Health Inspection Service (APHIS), US Department of Agriculture. The location of the nearest APHIS Regional Office, as well as information concerning this and other APHIS activities may be obtained at <http://www.aphis.usda.gov/>.

### **37. Research Involving Recombinant or Synthetic Nucleic Acid Molecules**

If this grant supports research involving recombinant or synthetic nucleic acid molecules, the grantee agrees to comply with the [Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules](#) (NIH Guidelines) including the procedural requirements and any subsequent revisions as they are published in the Federal Register. Further information on research grants that involve recombinant or synthetic nucleic acid molecules can be found in [PAPPG Chapter XI.B.2](#).

### **38. Clean Air and Water**

(Applicable only if the grant exceeds \$150,000, or a facility to be used has been the subject of a conviction under the Clean Air Act [42 USC § 7413(c)(1)] or the Clean Water Act [33 USC § 1319(c)] and is listed by the Environmental Protection Agency (EPA), or the grant is not otherwise exempt.)

The grantee agrees as follows:

a. To comply with all the requirements of Section 114 of the Clean Air Act [42 USC § 7414] and Section 308 of the Clean Water Act [33 USC § 1318], respectively, relating to inspection, monitoring, entry, reports and information, as well as other requirements specified in Section 114 and Section 308 of the Clean Air Act and the Clean Water Act, respectively and all regulations and guidelines issued thereunder before the issuance of the grant.

b. That no portion of the work required by the grant will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date that the grant was issued unless and until EPA eliminates the name of such facility or facilities from such listing.

c. To use its best efforts to comply with clean air standards and clean water standards at the facility in which the grant is being performed.

d. To insert the substance of the provisions of this article into any nonexempt subaward.

### **39. Human Research Subjects**

The grantee is responsible for the protection of the rights and welfare of any human subjects involved in research, development and related activities supported by this grant. The grantee agrees to comply with the NSF regulation, entitled, "*Protection of Human Subjects* [45 CFR Part 690]."

### **40. Life Sciences Dual Use Research of Concern (DURC)**

This Article applies to all research, for which NSF grant funds may be used, that potentially falls within the scope of the [US Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern](#) as published in September 2014, hereafter referred to as the "Policy". See also [PAPPG Chapter XI.B.5](#).

Grantees are responsible for monitoring the research progress and for implementation of all appropriate biosafety and biosecurity risk mitigation measures including compliance with all applicable laws and regulations related to that implementation, including the Policy specified above. (See also <https://osp.od.nih.gov/?s=Dual+Use+Research+of+Concern> for Frequently Asked Questions, case studies and other educational materials on DURC.)

### **41. Investigator Financial Disclosure Policy**

If the grantee employs more than 50 persons, the grantee must maintain an appropriate written and enforced policy on conflict of interest consistent with the provisions of [PAPPG Chapter IX.A](#).

See also FAQ 200.112-1 of the [Frequently Asked Questions for The Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 CFR § 200](#) regarding Conflict of Interest.

### **42. Whistleblower Protection**

Grantees are notified of the applicability of 41 USC § 4712, as amended by P.L. 112-239, providing protection for whistleblowers.

### **43. State Sales and Use Taxes**

Grantees are reminded that the governing cost principles cited in Article 12 limit the allowability of taxes to those the organization is required to pay. Grantees must avail themselves of any tax exemptions for which any activities supported by Federal funds may qualify, including any applicable exemptions from State or local sales and use taxes on the purchase of goods and services made with NSF grant funds.

### **44. Recipient Integrity and Performance Matters**

Recipients shall fully comply with the requirements stipulated in [Appendix XII to Part 200](#) of 2 CFR § 200, entitled "*Award Term and Condition for Recipient Integrity and Performance Matters*." See also Article 32 of these terms and conditions for NSF's responsibilities regarding reporting grant terminations to the OMB-designated integrity and performance system in accordance with Federal regulation.

**45. Breach of Personally Identifiable Information**

Grantees that use or operate a Federal information system or create, collect, use, process, store, maintain, disseminate, disclose, or dispose of Personally Identifiable Information (PII) within the scope of an NSF award, must have procedures in place to respond to a breach of PII. These procedures should promote cooperation and the free exchange of information with NSF, as needed to properly escalate, refer and respond to a breach. Grantees will notify NSF upon learning that a breach of PII within the scope of an NSF award has occurred.

**46. Debarment and Suspension**

Recipients shall fully comply with the requirements stipulated in Subpart C of 2 CFR Part 180, entitled "*Responsibilities of Participants Regarding Transactions*" as supplemented by NSF's regulations at 2 CFR Part 2520. The recipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180, entitled "*Covered Transactions*," includes a term or condition requiring compliance with Subpart C. The recipient also is responsible for further requiring the inclusion of a similar term or condition in any subsequent lower tier covered transaction. The recipient acknowledges that failing to disclose the information required under 45 CFR § 180.335 may result in the termination of the grant, or pursuance of other available remedies, including suspension and debarment.

**47. Resolution of Conflicting Conditions**

Should there be any inconsistency between any special conditions contained in the award notice and these *Grant General Conditions* (GC-1), the special conditions in the award notice shall control. Should there be any inconsistency between these *Grant General Conditions* (GC-1), any special conditions contained in award notice, and any NSF solicitation cited or included by reference in the notice of award, the matter should be referred to the cognizant NSF Grants Officer for guidance.

**Other Considerations****48. Liability**

NSF cannot assume any liability for accidents, bodily injury, illness, breach of contract, any other damages or loss, or any claims arising out of any activities undertaken pursuant to the grant, whether with respect to persons or property of the grantee or third parties. The grantee is advised to insure or otherwise protect itself or others, as it may deem desirable.

**49. Sharing of Findings, Data and Other Research Products**

a. NSF expects significant findings from research and education activities it supports to be promptly submitted for publication, with authorship that accurately reflects the contributions of those involved. It expects investigators to share with other researchers, at no more than incremental cost and within a reasonable time, the data, samples, physical collections and other supporting materials created or gathered in the course of the work. It also encourages grantees to share software and inventions or otherwise act to make the innovations they embody widely useful and usable.

b. Adjustments and, where essential, exceptions may be allowed to safeguard the rights of individuals and subjects, the validity of results, or the integrity of collections or to accommodate legitimate interests of investigators.

#### **50. Government Permits and Activities Abroad**

a. For grants that include activities requiring permits from appropriate Federal, State, or local government authorities, the grantee should obtain any required permits prior to undertaking the proposed activities.

b. The grantee must comply with the laws and regulations of any foreign country in which research is to be conducted. Areas of potential concern include: (1) requirements for advance approval to conduct research or surveys; (2) special arrangements for the participation of foreign scientists and engineers; and (3) special visas for persons engaged in research or studies. NSF does not assume responsibility for grantee compliance with the laws and regulations of the country in which the work is to be conducted.

c. The grantee also should assure that activities carried on outside the US are coordinated as necessary with appropriate US and foreign government authorities and that necessary licenses, permits or approvals are obtained prior to undertaking the proposed activities.