

Board Office Use: Legislative File Info.	
File ID Number	21-2506
Introduction Date	10/27/2021
Enactment Number	21-1784
Enactment Date	10/27/2021 CJH



Board Cover Memorandum

To Board of Education

From Kyla Johnson-Trammell, Superintendent
Joshua R. Daniels, Chief Governance Officer

Meeting Date October 27, 2021

Subject Research Collaboration Agreement with Leland Stanford Junior University – No Cost

Ask of the Board Ratification by the Board of Education of the Research Collaboration Agreement with Leland Stanford Junior University

Services The overall goal of the research permitted by the Research Collaboration Agreement is to assess the extent and severity of heavy metal soil contamination in urban school garden sites and the exposure risk posed to gardeners and students through the ingestion and inhalation pathways. The research will focus specifically on school gardens in the District because of a history that has created urban spaces where communities of color and low-income communities simultaneously face issues of food access and environmental pollution. The OUSD Garden Education Program has established garden sites at schools across Oakland and has a new site called The Central Kitchen, Education Center and Instructional Farm and Garden in West Oakland that has raised garden beds, edible plants, and an upcoming farm site. Soil and plant sampling and analysis will be conducted by lead researcher, Alexis Wilson, to assess heavy metal concentrations and exposure risk. Each Party will be responsible for its own costs and expenses incurred under this Agreement and shall provide all the necessary qualified personnel, equipment, materials, and facilities to perform the work as described in the Research Program. No funds shall be exchanged between the Parties under this Agreement.

Term Start Date: September 29, 2021
End Date: September 28, 2022

Funding Source(s) N/A. No-cost agreement.

Attachment(s)

- Research Collaboration Agreement with Leland Stanford Junior University

RESEARCH COLLABORATION AGREEMENT

This unfunded research collaboration agreement (“Agreement”), is entered into as of the last date of signature (“Effective Date”) between the Board of Trustees of the Leland Stanford Junior University, a trust with corporate powers under the laws of the State of California (“Stanford”) and the Oakland Unified School District (“District”). Stanford and District may be referred to individually as a “Party” or, collectively, “Parties”.

1. Scope of Collaboration

The purpose of the collaboration is to perform the research activities as further described in Attachment A (the “Research Program”), attached hereto and hereby incorporated by reference.

The Parties understand and acknowledge that any specific activities and programs implemented pursuant to this Agreement shall be subject to: (a) availability of equipment; (b) the review and approval of each Party’s authorized representatives; and (c) the execution of further written agreements such as those necessary to update or modify this Agreement.

Each Party is responsible for its own costs and expenses incurred under this Agreement and shall provide all the necessary qualified personnel, equipment, materials, and facilities to perform the work as described in the Research Program. No funds shall be exchanged between the Parties under this Agreement.

2. Conduct of the Collaboration

The Parties will conduct the collaboration in accordance with the Research Program. In their conduct of the Research Program, Stanford and its researcher agree to only perform the activities contemplated by this collaboration on District premises when no District staff and/or students are present on said premises. For the avoidance of doubt, Stanford researchers will only contact District students or staff virtually and will make all reasonable attempts to avoid physical interaction with District personnel in the performance of its activities under the Research Program.

Both Parties will perform their obligations under this Agreement in compliance with the terms of this Agreement, any Institutional Review Board (IRB) / Ethics Committee-approved protocols that may be needed, and all applicable federal, state, and local laws and regulations. Stanford shall share any IRB or Ethics Committee-approved protocols with District prior to implementation.

No additional research, other than what is provided for in the Research Program, that would make use of any data generated in the performance of the Research Program (“Data”) may be conducted during the conduct of the Research Program unless it is

approved in advance by the Parties and documented in writing as a companion research program or an amendment to this Agreement (and approved by the respective IRB / Ethics Committee, if necessary). The Parties agree that the District may not and shall not share protected student data with Stanford without a separate Data Sharing Agreement.

3. Term and Termination

This Agreement shall commence on the Effective Date and expire on the one (1) year anniversary of the Effective Date (the “Term”), unless extended by the Parties in a signed amendment to this Agreement. Either Party may terminate this Agreement for any reason by providing the other Party thirty (30) days advance written notice as set forth in this Agreement.

4. Authorized Representatives

The Authorized representatives of Stanford and District for technical and administrative matters are listed in the **Attachment B** to this Agreement (the “Authorized Representatives”). Changes to the Authorized Representatives will be communicated in writing between Parties, without necessity of a formal amendment to the Agreement.

The District shall not be bound by the terms of this Agreement unless and until it has been (i) formally approved by the District’s Governing Board or (ii) validly and properly executed by the District Superintendent, the General Counsel, or a Chief or Deputy Chief authorized by the Education Code or Board Policy.

5. Notices

The Parties must give all notices under this Agreement in writing via commercial overnight carrier or by email. All communications must be sent to the addresses set forth below or to such other address designated by the Parties by written notice. The date of the notice shall be the date of delivery provided by the commercial carrier or the date of transmission if the notice is sent by email.

If to Stanford:

Office of Sponsored Research
485 Broadway, Floor 3
Redwood City, California
USA 94063
Email: osr_intake@stanford.edu (Attn: AGR877937)
cc: fendorf@stanford.edu
cc: amw543@stanford.edu

If to District:

Joshua R. Daniels
General Counsel
1000 Broadway
Suite 300
Oakland, CA 94670
ousdlegal@ousd.org
510-897-8535

6. Intellectual Property

The Parties agrees that District shall own the entire right, title, and interest, including all patents, copyrights, and other intellectual property rights, in and to all tangible materials, inventions, works of authorship, software, information and data solely conceived or developed by District personnel and using District’s facilities (“District Technology”). The Parties further agree that Stanford shall own the entire right, title, and interest, including all patents, copyrights, and other intellectual property rights, in and to all tangible materials, inventions, works of authorship, software, information and data solely conceived or developed by Stanford personnel and using Stanford facilities under this Agreement (“Stanford Technology”).

7. Applicable Laws

Each Party shall comply with the laws and regulations that are applicable to such Party in the jurisdiction in which it is located, including, without limitation, non-discrimination, data privacy, care and treatment of laboratory animals, civil rights and equal employment opportunity, protection of human subjects, patents and inventions, rights in data, export control, immigration and sanctioned parties or transactions.

8. Party Liability; Disclaimer of Warranties

Each Party shall be responsible for its own negligent acts or omissions and the negligent acts or omissions of its employees, officers, or directors, to the extent allowed by law. EXCEPT FOR CLAIMS BASED ON WILLFUL MISCONDUCT, NEITHER PARTY SHALL BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES OF THE OTHER PARTY.

WITHOUT LIMITING ANY OTHER TERM OR CONDITION OF THIS AGREEMENT, ALL INFORMATION, EQUIPMENT, DATA, AND RESULTS PROVIDED UNDER THIS AGREEMENT IN PERFORMANCE OF THE RESEARCH PROGRAM ARE PROVIDED “AS IS” WITH ALL FAULTS. EACH PARTY HEREBY DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED,

INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR OF NON-INFRINGEMENT. Notwithstanding, the Parties represent that they have no knowledge of any current claims of patent, trademark or copyright infringement and they will promptly notify one another of any future claims.

This Section 8 shall survive the expiration or termination of this Agreement.

9. Insurance

Each Party will maintain a level of self-insurance or insurance as required by law to cover its liability under this Agreement.

10. Publicity

Neither Party may use the name, brand, tradename, trademark, logo, or symbol of the other Party in any form of advertising, publicity, announcement, promotional materials or activities, in a website, press release, social media platform or any other communication without the prior written permission of the other Party. In addition, the Parties shall not use the name, title, likeness, or any statement of a faculty member, employee, or student of the other Party's, without the other Party's prior written consent. The Parties must seek permission from one another for any such use by submitting a request for the proposed use in writing, well in advance of any deadline, to the individuals set forth in Section 5.

This Section 10 shall survive the expiration or termination of this Agreement.

11. Publications

Stanford is encouraged to make publicly available the results of the Research Program. Before Stanford submits a paper or abstract for publication or otherwise intends to publicly disclose information about the results of the Research Program, the District will have thirty (30) days from receipt to review proposed manuscripts and ten (10) days from receipt to review proposed abstracts to ensure that the District data and information is appropriately de-identified. The District may request in writing that the proposed publication or other disclosure be delayed for up to thirty (30) additional days as necessary to protect proprietary information.

12. Dispute Resolution

If any dispute arises between the Parties in connection with payments due under this Agreement and it cannot be resolved by mutual agreement after meetings between the Parties, then the Parties may pursue any available course of resolution.

13. Assignment

Neither Party may assign this Agreement without the prior written consent of the other Party.

14. Severability

If any provision of this Agreement becomes or is declared illegal, invalid, or unenforceable, the provisions will be divisible from this Agreement and deemed to be deleted from this Agreement. If the deletion substantially alters the basis of this Agreement, the Parties will negotiate in good faith to amend the provisions of this Agreement to give effect to the original intent of the Parties.

15. Independent Contractors

Stanford and District are independent contractors and neither is an agent, joint venturer, or partner of the other.

16. Governing Law

This Agreement is governed by the laws of the State of California, without regard to its conflict of laws doctrine. Any legal action involving this Agreement will be adjudicated in the State of California.

17. Amendments or Changes

Amendments or changes to this Agreement must be in writing and signed by each party's authorized representative, with the exception of changes to **Attachment B**.

18. Entire Agreement

This Agreement represents the entire agreement and understandings between the parties with respect to its subject matter. It supersedes all prior or contemporaneous discussions, representations, or agreements, whether written or oral, of the parties regarding this subject matter.

19. Export Controls

It is understood that Stanford is subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities, and that its obligations hereunder are contingent on compliance with applicable U.S. export laws and regulations, including the Export Administration Regulations ("EAR") (15 C.F.R. §730-744), the International Traffic in Arms Regulations

("ITAR") (22 C.F.R. § 120-130), and the economic sanctions programs administered by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC") (as set forth in 31 C.F.R. §500-598 and certain executive orders). The transfer of any such technology and items and the entering into and provision of such transactions and services that are subject to restrictions may require a license or authorization from the cognizant agency of the United States Government, and/or may require written assurances by the receiving party that it shall not re-export such technology and items to certain foreign destinations and/or to certain recipients without prior approval of the cognizant government agency, and/or may require that the involved individuals and entities will comply with conditions on transactions and services. While the Parties may confer and agree to cooperate in securing any license which the cognizant agency deems necessary in connection with this Agreement, neither Party guarantees that such licenses will be granted. No Party shall share or disclose information, materials, or technology with any person, party or location in Cuba, Iran, North Korea, Sudan, Syria, the Crimea region of the Ukraine or any other country or territory subject to U.S. trade sanctions, as listed at <https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>

In the event an export license is required, the Party requiring such a license will be responsible for the cost of obtaining such license.

20. Force Majeure

Neither Party shall be liable for any failure to perform as required by this Agreement to the extent such failure to perform is solely caused by circumstances reasonably beyond such Party's control, such as labor disturbances or labor disputes of any kind, accidents, failure of any governmental approval required for full performance, civil disorders or commotions, acts of aggression, acts of God, energy or other conservation measures, explosions, failure of utilities, mechanical breakdowns, material shortages, disease, pandemic, quarantine, or other such occurrences.

21. Coronavirus/COVID-19.

Stanford researchers who intend to conduct activities on District premises agree to adhere to and follow any District directives regards health and safety protocols prior to performing any of the Research Program activities at the District.

Each Stanford researcher shall bear all costs of compliance with this section.

22. Counterparts and Electronic Signature.


This Agreement, and all amendments, addenda, and supplements to this Agreement, may be executed in one or more counterparts, all of which shall constitute one and the same amendment. Any counterpart may be executed and delivered by facsimile or other electronic signature (including portable document format) by either Party and,

notwithstanding any statute or regulations to the contrary (including, but not limited to, Government Code section 16.5 and the regulations promulgated therefrom), the counterpart shall legally bind the signing Party and the receiving Party may rely on the receipt of such document so executed and delivered electronically or by facsimile as if the original had been received. Through its execution of this Agreement, each Party waives the requirements and constraints on electronic signatures found in statute and regulations including, but not limited to, Government Code section 16.5 and the regulations promulgated therefrom.

Approved and accepted for:

District

**Board of Trustees
of the Leland Stanford Junior University**

By: 

By: _____

Name: Joshua R. Daniels

Name: _____

Title: General Counsel

Title: _____

Date: Sep 29, 2021

Date: _____

I, **Scott Fendorf** (Stanford Principal Investigator), acknowledge that I have read this Agreement in its entirety and will use reasonable efforts to uphold my obligations and responsibilities under this Agreement.



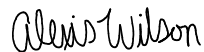
Signature

Name: Scott Fendorf

Title: Terry Huffington Professor, Senior Associate Dean for Planning and Facilities and Senior Fellow at the Woods Institute for the Environment

Date:

Read and acknowledged by:



Signature

Name: Alexis Monae Wilson

Title: Graduate Fellow for Regional Engagement on Climate Change

Date: **9/29/2021**

ATTACHMENT A

Research Program

Title: Assessing Heavy Metal Contamination in Urban School Gardens

Lead Researcher: Alexis Wilson, PhD Candidate in the Department of Earth System Science at Stanford University

Stanford Principal Investigators: Dr. Scott Fendorf and Dr. Chris Field, Stanford University
In

Collaborator: The Oakland Unified School District (OUSD)

Project Background:

Heavy metal(loid)s, such as lead (Pb), cadmium (Cd), chromium (Cr), and arsenic (As) occur naturally in soils but not at levels high enough to be of concern. Elevated metal concentrations have been found in urban soils because anthropogenic activities raise contaminant concentrations—often to unsafe levels for human exposure. Anthropogenic sources include fossil fuel combustion (particularly of leaded gasoline), past and current industrial activity, hazardous waste, and metal-containing products (e.g. leaded paint). While researchers have broadly characterized overall patterns of soil contamination in urban areas, levels of metal contamination and exposure threats are still lacking for urban agricultural spaces. Various forms of urban agriculture exist including home, community, and school gardens. Because these sites exist in urban areas plagued by soil contamination, there is a risk that gardens may be built on sites of contaminated soils or are actively being contaminated by various sources. If contaminated soil is present, human exposure can transpire through multiple pathways: ingestion, inhalation, and dermal contact. The negative health impacts of chronic and acute heavy metal toxicity in humans is well documented, including carcinogenic effects, organ damage, neurological degenerative processes, and death; certain populations are more at risk than others, namely children and pregnant women.

Project Description:

The overall goal of this research is to assess the extent and severity of heavy metal soil contamination in urban school garden sites and the exposure risk posed to gardeners and students through the ingestion and inhalation pathways. This research will focus specifically on school gardens in Oakland, CA because of a history which has created urban spaces where communities of color and low-income communities simultaneously face issues of food access and environmental pollution. The OUSD Garden Education Program has established garden sites at schools across Oakland and has a new site called The Central Kitchen, Education Center and Instructional Farm and Garden (The Center) in West

Oakland which has raised garden beds, edible plants, and an upcoming farm site. Soil and plant sampling and analysis will be conducted by lead researcher, Alexis Wilson, to assess heavy metal concentrations and exposure risk. A simplified flow for the project would be: sample collection → sample analysis → data analysis

→ final results and conclusions → site remediation (+ re-testing and monitoring) → research dissemination/communication (including academic publications).

Field Sites:

OUSD District 7 School Garden Sites: There are 12 district public schools (K-12) located in OUSD District 7 which stretches from the East Oakland Hills to the Oakland Flatlands. The proposed school sites are distributed throughout District 7 and located among industrial, commercial, and residential areas, high traffic roadways, and among different racial and socioeconomic neighborhoods.

The Center: OUSD is in the process of building a farm (~1 acre) at The Center, a site in West Oakland recently developed to serve students and community members with 25 raised beds, an educational kitchen, community garden, and a farm. The plan is for the farm site to be in-ground and so soil testing, remediation, and general transformation of the soil for agricultural purposes is necessary. The previous site history is unknown so a site characterization will be conducted.

Sample Collection:

The lead researcher (Alexis) will obtain samples from the underlying soil and raised bed soil (and commercial garden soil and compost if applicable). Surface soil samples will be taken from areas surrounding the garden (e.g. paths in between beds). For raised beds, 6 sub-samples will be taken in each bed using a stainless-steel garden trowel and mixed into a single composite sample representing an average of the bed called “bed samples”. They will collect vegetable and herb samples at the time of reproductive maturity (first fruits reach full size) or harvest-time, whichever comes first, because this growth stage is when crops are typically harvested and ingested. All samples will be stored in polyethylene bags for transport to the Stanford laboratory. Geospatial coordinates at each site will be recorded using a GPS Unit. The Portable XRF can also be used for rapidly assessing soil heavy metal levels.

Figure 1: Soil and plant sampling scheme at urban garden sites. Blue X= underlying soil samples, Red =raised bed soil samples, Green scissors=plant samples

Sample Analysis:

Bulk elemental composition of lead, chromium, manganese, cadmium, zinc, and arsenic will be determined at the Stanford University Environmental Measurements Facility (EMF) using a Spectro Xepos XRF. The use of a sequential extraction procedure will assess the phytoavailable fraction of metals in soils. Exposure pathways (ingestion, dermal, inhalation) will be estimated using the equations detailed in the EPA Exposure Factors Handbook.

Role of Stanford Researchers:

- A) Lead and carry-out research activities (sample collection, sample analysis, data analysis)
- B) Provide results on soil and plant heavy metal concentrations, and exposure assessments for ingestion and inhalation pathways
- C) Advise on remediation options for contaminated sites
- D) Involvement in research dissemination/communication to various stakeholders (also in partnership with Communities for a Better Environment)

Role of OUSD:

- A) Provide access to school garden sites (within District 7 and at The Center) and personnel to Stanford researchers
 - a) Allow for the collection of soil and plant samples
- B) Provide information/data, if available, on the garden sites (former testing data, site history, produce growth and ingestion data, standards for soil heavy metal levels)

Data Requests:

- A) Student produce consumption per week/month/academic year
- B) Time students spend in gardens per week/month/academic year

Expected Outcomes:

- A) Assessment of contamination levels at school sites and risk assessment for soil exposure pathways.
- B) Publication(s) in a peer-reviewed academic journal

Expected Deliverables:

- A) Analytical results on the heavy metal concentrations in soil and plant samples, and risk exposure assessments.
- B) Research dissemination/communication (oral presentation, written research communications).

C) Suggestions for remediation of contaminated sites.

D) Support/present at/participate in community outreach and meetings in order to provide accurate information to school communities.

*No intellectual property will be developed as a result of this work.

Funding:

No funding is being provided by either party. Stanford will be using various internal funds for the analysis needed for this work.

Timeline:

Start date: Effective Date

End Date: One (1) Year from the Effective Date

*Continued sampling over time to monitor changes in soil heavy metal concentrations and the success of any implemented remediation protocols is possible, which would mean multiple sampling points over time (perhaps yearly or more frequently).

ATTACHMENT B
Authorized Representatives

STANFORD Contacts	District Contacts
<p style="text-align: center;"><u>Authorized Official</u></p> <p>Name: Joshua Murphy JD, CIPP/US Address: Stanford University Office of Sponsored Research 485 Broadway, Floor 3 Redwood City, CA 94063 Telephone: +1 (650) 721-1913 Email: murphyjd@stanford.edu</p>	<p style="text-align: center;"><u>Authorized Official</u></p> <p>Name: Joshua R. Daniels (he/him/his) Address: Chief Governance Officer Oakland Unified School District 1000 Broadway, Suite 300 Oakland, CA 94607 Telephone: (510) 879-5060 (main) Email: (510) 842-5227 (cell)</p>
<p style="text-align: center;"><u>Principal Investigator</u></p> <p>Name: Scott Fendorf Address: Green Rm. 301 Stanford, California 94305-2115 US Telephone: (650) 723-5238 Email: fendorf@stanford.edu</p>	<p style="text-align: center;"><u>Risk Management Officer</u></p> <p>Name: Rebecca Littlejohn Address: Risk Management Officer Oakland Unified School District (510) 879-8081 office Telephone: (925) 239-5142 cell Email: eFax 510-844-3323</p>
<p style="text-align: center;"><u>Administrative Contact</u></p> <p>Name: Alexis Wilson Address: Telephone: Email: amw543@stanford.edu</p>	