

INSTITUTE FOR SYSTEMS BIOLOGY

Single Audit Reports

For the Year Ended December 31, 2017

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**Report on Internal Control Over Financial Reporting
and on Compliance and Other Matters Based on an
Audit of Financial Statements Performed in
Accordance With *Government Auditing Standards***

Independent Auditor's Report

**To the Board of Directors
Institute for Systems Biology
Seattle, Washington**

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Institute for Systems Biology (the Institute), which comprise the statement of financial position as of December 31, 2017, and the related statements of activities and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated June 4, 2018.

INTERNAL CONTROL OVER FINANCIAL REPORTING

In planning and performing our audit of the financial statements, we considered the Institute's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control. Accordingly, we do not express an opinion on the effectiveness of the Institute's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.



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COMPLIANCE AND OTHER MATTERS

As part of obtaining reasonable assurance about whether the Institute's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

PURPOSE OF THIS REPORT

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Institute's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Certified Public Accountants

June 4, 2018

**Report on Compliance for Each Major Federal Program;
Report on Internal Control Over Compliance; and
Report on Schedule of Expenditures of Federal Awards
Required by the Uniform Guidance**

Independent Auditor's Report

**To the Board of Directors
Institute for Systems Biology
Seattle, Washington**

REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM

We have audited the Institute for Systems Biology's (the Institute's) compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Institute's major federal programs for the year ended December 31, 2017. The Institute's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with the requirements of laws, regulations, contracts and grants applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the Institute's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Institute's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the Institute's compliance.



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Opinion on Each Major Federal Program

In our opinion, the Institute complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended December 31, 2017.

REPORT ON INTERNAL CONTROL OVER COMPLIANCE

Management of the Institute is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Institute's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Institute's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, we did identify a certain deficiency in internal control, described in the accompanying schedule of findings and questioned costs as item 2017-001 that we consider to be a significant deficiency.

The Institute's response to the internal control over compliance finding identified in our audit is described in the accompanying schedule of findings and questioned costs. The Institute's response was not subject to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

REPORT ON SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

We have audited the financial statements of the Institute as of and for the year ended December 31, 2017, and have issued our report thereon dated June 4, 2018, which contained an unmodified opinion on those financial statements. Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the audit requirements of the Uniform Guidance and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the financial statements as a whole.

Clark Nuber P.S.

Certified Public Accountants
June 4, 2018

INSTITUTE FOR SYSTEMS BIOLOGY

Schedule of Expenditures of Federal Awards For the Year Ended December 31, 2017

Program Title/Federal Grantor/Pass-Through Grantor	Federal CFDA Number	Pass-Through Number	Passed Through to Subrecipients	Fiscal Year Expenditures
Research and Development Cluster				
U.S. Department of Health and Human Services:				
National Institutes of Health- Cancer Genomics Cloud	93.HHSN261201400007C		\$ 1,156,323	\$ 3,002,236
Analysis of Transcriptome Profiling of Blood From Individuals Challenged With Influenza Virus	93.HHSN272201601335P			155,561
Systems Approach to Immunity and Inflammation- Passed through OriGene Technologies, Inc.	93.HHSN261201500049C	ISB-1359		147,156
Systems Biology of Influenza Virus Infection and Vaccination Passed through Medical Science and Computing	93.HHSN272201500015I	CSA-NIAID-ISB-17-2017-006		62,822
Cancer Genomics Cloud Resource Passed through Leidos Biomedical Research, Inc.	93.HHSN261200800001E	17X148		34,039
Human Genome Research	93.172			224,097
Trans-NIH Research Support- Passed through Pacific Northwest Research Institute	93.310	126496-S01		101,006
National Center for Advancing Translational Sciences	93.350		752,558	1,208,075
Cancer Cause and Prevention Research- Passed through University of Washington	93.393	UWSC7980		8,760
Passed through University of Washington	93.393	UWSC8481		210,968
Passed through University of Washington	93.393	UWSC8877		12,218
Passed through Fred Hutchison Cancer Research Center	93.393	918392		17,798
Total for CFDA 93.393				249,744
Cancer Detection and Diagnosis Research- Passed through British Columbia Cancer Agency	93.394	2017-0286		116,899
Passed through British Columbia Cancer Agency	93.394	2018-0238		58,426
Passed through Virginia Commonwealth University	93.394	FP00005690_SA001		64,388
Total for CFDA 93.394				239,713
Cancer Treatment Research	93.395		77,169	620,859
Cancer Biology Research- Passed through Johns Hopkins University	93.396	PO2002979490		83,437
Passed through University of Southern California	93.396	63910573		221,629
Passed through University of Southern California	93.396	63910573		304,596
Total for CFDA 93.396				609,662
Cardiovascular Diseases Research- Direct	93.837			503,190
Passed through University of Washington	93.837	BPO20259		156,319
Passed through Des Moines University	93.837	08-16-05 sub 3		178,886
Total for CFDA 93.837				838,395
Lung Diseases Research- Passed through The Brigham & Women's Hospital, Inc.	93.838	117046		172,899
Diabetes, Digestive and Kidney Diseases Extramural Research- Direct	93.847		117,450	255,129
Child Health and Human Development Extramural Research- Direct	93.865			73,625
Passed through Cincinnati Children's Hospital	93.865	138656		207,720
Total for CFDA 93.865				281,345
Aging Research- Passed through PreCyte	93.866	AG2015-01-ISB-001		128,238
Passed through Sage Bionetworks	93.866	AMPT2017ISB		38,817
Passed through Duke University	93.866	2036651		30,452
Passed through University of Florida	93.866	UF13201		281,035
Total for CFDA 93.866				478,542

See independent auditor's report and notes to schedule of expenditures of federal awards.

INSTITUTE FOR SYSTEMS BIOLOGY

Schedule of Expenditures of Federal Awards For the Year Ended December 31, 2017

Program Title/Federal Grantor/Pass-Through Grantor	Federal CFDA Number	Pass-Through Number	Passed Through to Subrecipients	Fiscal Year Expenditures
Biomedical Research and Research Training-				
Direct	93.859		428,905	2,909,907
Passed through University of Colorado, Boulder	93.859	1554625		281,442
Passed through University of Colorado, Boulder	93.859	1553848		65,543
Passed through University of Washington	93.859	UWSC9891		20,451
Passed through University of Washington	93.859	UWSC10140		4,403
Passed through Rockefeller University	93.859	1R01GM112108-01A1		101,207
Passed through Rockefeller University	93.859	P41GM109824-01		96,971
Total for CFDA 93.859			428,905	3,479,924
Allergy and Infectious Disease Research-				
Direct	93.855			654,138
Passed through Center for Infectious Disease Research	93.855	ISB-10135		453,891
Passed through Center for Infectious Disease Research	93.855	ISB-10135DC		159,308
Passed through Center for Infectious Disease Research	93.855	ISB-12005		134,073
Passed through Center for Infectious Disease Research	93.855	ISB-10135-Pilot4		92,430
Passed through Center for Infectious Disease Research	93.855	ISB-13534		27,231
Passed through Center for Infectious Disease Research	93.855	ISB-12001		3,506
Total for CFDA 93.855				1,524,577
Total U.S. Department of Health and Human Services			2,532,405	13,685,781
National Science Foundation:				
Engineering Grants-				
Passed through University of Washington	47.041	UWSC8578		132,145
Geosciences-				
Passed through University of Washington	47.050	UWSC9760		9,032
Computer and Information Science and Engineering	47.070			57,666
Biological Sciences-				
Direct	47.074			1,234,729
Passed through Portland State University	47.074	206THO552		34,804
Passed through San Diego State University	47.074	SA0000545		52,359
Total for CFDA 47.074				1,321,892
Total National Science Foundation				1,520,735
U.S. Department of Defense:				
U.S. Army Medical Command-				
Systems Approach to Immunity and Inflammation	12.HDTRA1-13-C-0055		166,699	1,608,254
Military Medical Research and Development-				
Direct	12.420		103,033	396,626
Passed through Center for Infectious Disease Research	12.420	W81XWH-15-1-0249		2,989
Total for CFDA 12.420			103,033	399,615
Basic Scientific Research-				
Passed through Harvard College	12.431	124045-5104226		466,213
Passed through Harvard College	12.431	W911-NF-16-2-0015		155,580
Passed through University of Washington	12.431	W911-15-2-0127		1,367
Total for CFDA 12.431				623,160
Total U.S. Department of Defense			269,732	2,631,029
U.S. Department of Energy:				
Electron Flow and Energy Conservation-				
Passed through University of Washington	81.049	UWSC9307		1,570
Advanced Research Projects Agency, Energy-				
Passed through University of Michigan	81.135	DE-AR0000426		68,446
Experimental Design, Implementation-				
Passed through Lawrence Berkeley National Lab	81.DE-AC02-05CH11231	6953601		888,714
Total U.S. Department of Energy				958,730
Total Research and Development Cluster/Expenditures of Federal Awards			\$ 2,802,137	\$ 18,796,275

See independent auditor's report and notes to schedule of expenditures of federal awards.

INSTITUTE FOR SYSTEMS BIOLOGY

Notes to Schedule of Expenditures of Federal Awards For the Year Ended December 31, 2017

Note 1 - Method of Accounting

The accompanying schedule of expenditures of federal awards (the "Schedule") includes the federal award activity of the Institute for Systems Biology (the Institute) under programs of the federal government for the year ended December 31, 2017. The information in this Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (Uniform Guidance)*. Because the Schedule presents only a selected portion of the operations of the Institute, it is not intended to and does not present the financial position, changes in net assets or cash flows of the Institute.

Note 2 - Significant Accounting Policies

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following, as applicable, either the cost principles in OMB Circular A-122, *Cost Principles for Non-Profit Organizations*, or the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. The Institute has elected not to use the 10-percent de minimis indirect cost rate allowed under the Uniform Guidance. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years.

INSTITUTE FOR SYSTEMS BIOLOGY

Schedule of Findings and Questioned Costs
For the Year Ended December 31, 2017

Section I - Summary of Auditor's Results

Financial Statements

Type of auditor's report issued:

Unmodified

Internal control over financial reporting:

- Material weaknesses identified?

☐ Yes

☒ No

- Significant deficiencies identified?

☐ Yes

☒ None reported.

Noncompliance material to financial statements noted?

☐ Yes

☒ No

Federal Awards

Internal control over major programs:

- Material weaknesses identified?

☐ Yes

☒ No

- Significant deficiencies identified?

☒ Yes

☐ None reported.

Type of auditor's report issued on compliance
for major programs:

Unmodified

Any audit findings disclosed that are required to
be reported in accordance with 2 CFR
200.516(a)?

☒ Yes

☐ No

Identification of Major Programs

CFDA Numbers

12.420 12.431 47.041 47.050
47.070 47.074 81.049
81.135 81.DE-AC02-05CH11231
93.172 93.393 93.394 93.395
93.396 93.310 93.350 93.837
93.838 93.847 93.865 93.866
93.859 93.855 12.HDTRA1-13-C-0055
93.HHSN261201400007C 93.HHSN272201500015I
93.HHSN261200800001E 93.HHSN261201500049C
93.HHSN272201601335P

Name of Federal Program or Cluster

Research and Development Cluster

Dollar threshold used to distinguish between
Type A and Type B programs:

\$ 750,000

Auditee qualified as low-risk auditee?

☒ Yes

☐ No

INSTITUTE FOR SYSTEMS BIOLOGY

Schedule of Findings and Questioned Costs For the Year Ended December 31, 2017

Section II - Financial Statement Findings

No matters reported.

Section III - Findings and Questioned Costs for Federal Awards

Finding 2017-001

Significant deficiency in Internal controls over compliance related to specialized service facility costs.

Federal Agencies:	All Awards within the Research and Development Cluster
CFDA Number/Title:	All Awards within the Research and Development Cluster
Award Numbers:	All Awards within the Research and Development Cluster
Award Periods:	All Awards within the Research and Development Cluster

Criteria

2 CFR 200 Subpart E requires that specialized service facility costs be charged directly to awards based on actual usage of the services and on the basis of a schedule of rates or established methodology that (1) does not discriminate against federally supported activities of the nonprofit organization, including usage by the nonprofit organization for internal purposes and (2) is designed to recover only the aggregate costs of the services. Rates should be adjusted at least biennially and shall take into consideration over/under applied costs of the previous period.

Condition/Context for Evaluation

During the year ended December 31, 2017, from a sample of 60 internal control selections, we identified 14 instances which shared service invoice rates did not conform to the rates included in the most current internal rate sheet. In 13 of the 14 instances, rates used were lower than the rate in the most current internal rate sheet and in 1 of the 14 instances, the rate used was higher than the rate in the most current internal rate sheet. The sample was not a statistical sample.

Effect or Potential Effect

The Institute did not fully comply with the internal control processes in place over specialized service facility costs. As a result, invoices included improper rates that did not agree to the current rate sheet and were calculated inconsistently.

Questioned Costs

There are only questioned costs related to 1 of the instances noted above as there was only 1 instance in which the rate used was higher than the rate in the most current internal rate sheet. The rate used was \$1,083 while the rate in the most current internal rate sheet was \$915 and this item appeared twice on the invoice selected, resulting in questioned costs of \$336. The questioned costs affect CFDA #81.DE-AC02-05CH11231, titled Experimental Design, Implementation, passed through Lawrence Berkeley National Lab, for the award period 10/1/2016 - 09/30/2017.

Repeat Finding

This is a repeat of finding 2016-002.

Cause

The Institute's internal controls did not allow for proper review of shared services invoices to ensure that rates used were in accordance with the current rate sheet.

INSTITUTE FOR SYSTEMS BIOLOGY

**Schedule of Findings and Questioned Costs
For the Year Ended December 31, 2017**

Section III - Findings and Questioned Costs for Federal Awards (Continued)

Recommendation

We recommend that management review all shared services invoices to ensure that rates are used in accordance with the current rate sheet.

View of Responsible Officials of Auditee

Management agrees with the finding and has provided the corrective action plan following the Single Audit Report.

INSTITUTE FOR SYSTEMS BIOLOGY

**Summary Schedule of Prior Audit Findings
For the Year Ended December 31, 2017**

Financial Statement Findings

No matters were reported.

Findings and Questioned Costs for Federal Awards

Finding 2016-001

Significant deficiency in Internal controls and noncompliance with the allowable costs/cost principles compliance requirement.

Condition/Context for Evaluation

During the year ended December 31, 2016, from a sample of 25 allowable costs included in the preliminary 2016 indirect cost pool, we identified one instance of alcohol that was not excluded from the indirect cost pool. The sample was not a statistical sample.

Recommendation

We recommend that management review travel and entertainment costs to ensure that any unallowable expenses are excluded from the indirect cost pool.

Current Year Status

The Institute implemented new processes and procedures over allowability of indirect costs to ensure any unallowed costs are excluded from the indirect cost pool during the year ended December 31, 2017.

Finding 2016-002

Significant deficiency in Internal controls over specialized service facility costs and noncompliance with the allowable costs/cost principles compliance requirement.

Condition/Context for Evaluation

During the year ended December 31, 2017, from a sample of 40 allowable costs, we identified 2 instances which shared service invoice rates did not conform to the rates included in the most current internal rate sheet. The sample was not a statistical sample.

Recommendation

We recommend that management review all shared services invoices to ensure that rates are used in accordance with the current rate sheet.

Current Year Status

This finding is repeated for the year ended December 31, 2017 as internal control finding 2017-001.

INSTITUTE FOR SYSTEMS BIOLOGY

**Management's Corrective Action Plan
For the Year Ended December 31, 2017**

Finding Number
2017-001

Contact Person(s)
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Director of Finance
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Explanation and Specific Reasons for Disagreement With the Audit Finding or That Corrective Action is not Required (if Applicable)
No disagreement.

Corrective Action Planned

The Institute has taken several steps to correct the internal control deficiency noted in this finding:

[1] For the instance in which the billing rate used exceeded the applicable rate based on the nature of the service, the Institute has taken two steps –

[a] All transactions during 2017 for this type of service were reviewed to determine if there were any other instances of billing rate errors. This review was completed May 15, 2018. No other erroneous transactions were found.

[b] The questioned costs (\$336) from the tested transactions have been returned to the funding source by means of an expense credit processed in May 2018, which will offset other reimbursable costs on this project and be included in the monthly reimbursement billing.

[2] For the instances in which the billed rate was less than the published internal rate sheet (i.e. there was an implied subsidy), the Institute has added notations to the internal rate sheets which make any subsidies explicit.

[3] More generally, the Institute is conducting a review to simplify the rate structure for sequencing services to move from a series of highly customized rates to a set number of fixed rates. The aim is to improve tracking of these rates on the master price list, more reliably apply these rates to service facility invoices, and more easily identify instances of non-conforming rates using internal transaction audits. Quarterly internal transaction audits will be continued. These audits focus on matching the type of service ordered with the published rates and correcting as necessary. They will also determine if there are any new custom rates and, if necessary, review and establish new fixed rates. The new simplified sequencing rate structure will go into effect July 1, 2018.

Anticipated Completion Date
July 1 2018