ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION

Years Ended September 30, 2021 and 2020

CohnReznick
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Independent Auditor's Report

To the Board of Directors
Association of Universities for Research in Astronomy, Inc.
Washington, DC

Report on the Financial Statements

We have audited the accompanying financial statements of the Association of Universities for Research in Astronomy, Inc. ("AURA"), which comprise the statements of financial position as of September 30, 2021 and 2020, and the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with 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. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of AURA as of September 30, 2021 and 2020, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

To the Board of Directors
Association of Universities for Research in Astronomy, Inc.

Report on Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying schedules of property owned by the United States of America - NSF are presented for purposes of additional analysis of AURA and are 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 information is fairly stated in all material respects in relation to the financial statements as a whole.

The information within the disclosures of property owned by the United States of America - NASA is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audits of the basic financial statements and, accordingly, we express no opinion or any other form of assurance on it.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 27, 2022 on our consideration of AURA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of AURA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering AURA's internal control over financial reporting and compliance.

CohnReznick LLP

Bethesda, Maryland
June 27, 2022

FINANCIAL STATEMENTS

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF FINANCIAL POSITION
September 30, 2021 and 2020
(Amounts in thousands)

	2021	2020
ASSETS		
Cash and cash equivalents (note 3)	$ 32,252	$ 29,858
Assets held for others (note 4)	29,677	28,791
Investments (notes 6 and 7)	27,193	17,679
Accounts receivable	15,318	10,313
Awards/contracts receivable	4,624	8,366
Inventories and other assets	5,025	4,516
Property and equipment, net (note 8)	2,633	3,454
Total assets	$ 116,722	$ 102,977
LIABILITIES AND NET ASSETS		
Liabilities:		
Payables and accrued expenses	$ 23,000	$ 23,393
Accrued vacation and postemployment benefits	25,108	23,186
Deferred award/contract revenues	32,691	23,033
Assets held for others (note 4)	29,677	28,791
Accrued postretirement benefit obligation (note 9b)	2,010	10,043
Total liabilities	112,486	108,446
Net assets (deficit) (note 10):		
Without donor restrictions	3,838	(5,522)
With donor restrictions	398	53
Total net assets (deficit)	4,236	(5,469)
Total liabilities and net assets (deficit)	$ 116,722	$ 102,977

The accompanying notes are an integral part of the financial statements.

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF ACTIVITIES
Years Ended September 30, 2021 and 2020
(Amounts in thousands)

REVENUES, GAINS AND OTHER SUPPORT	**2021**	**2020**
Changes in net assets without donor restrictions:		
National Science Foundation - Cooperative Agreements:		
Research activity (note 3)	$ 145,538	$ 147,465
National Aeronautics and Space Administration - prime contracts:		
Research activity (note 3)	180,557	183,097
Other awards and contracts		
Other federal awards and contracts	16,632	16,072
Other nonfederal awards and contracts	8,283	7,588
Net investment income (note 6)	288	613
Other income	4,281	2,505
Total revenues, gains, and other support without donor restrictions	355,579	357,340
Expenses (note 11):		
Program expenses - Research activity	321,519	331,901
Management and general	31,895	29,089
Total expenses	353,414	360,990
Change in net assets without donor restrictions before other changes	2,165	(3,650)
Other changes (note 9b):		
Net periodic postretirement benefit credit (cost) other than service cost	1,200	(625)
Total postretirement changes other than net periodic benefit cost	5,995	9,617
Total other changes	7,195	8,992
Change in net assets without donor restrictions	9,360	5,342
Changes in net assets with donor restrictions:		
Contributions	345	-
Change in net assets with donor restrictions	345	-
Change in net assets	9,705	5,342
Net deficit at beginning of year	(5,469)	(4,404)
Cumulative effect of accounting change (note 2n)	-	(6,407)
Net assets (deficit) at end of year	$ 4,236	$ (5,469)

The accompanying notes are an integral part of the financial statements.

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF CASH FLOWS
Years Ended September 30, 2021 and 2020
(Amounts in thousands)

	2021	2020
Cash flows from operating activities:		
Change in net assets	$ 9,705	$ 5,342
Adjustments to reconcile the change in net assets to net cash provided by operating activities:		
Depreciation and amortization	1,394	844
Realized and unrealized losses (gains) on investments, net	200	(165)
Increase (decrease) in cash resulting from changes in:		
Accounts receivable	(5,005)	(6,248)
Awards/contracts receivable	3,742	(3,830)
Inventories and other assets	(509)	(1,415)
Payables and accrued expenses	(393)	11,149
Accrued vacation and post employment benefits	1,922	4,077
Deferred award/contract revenues	9,658	13,581
Accrued postretirement benefit obligation	(8,033)	(8,800)
Net cash provided by operating activities	12,681	14,535
Cash flows from investing activities:		
Purchases of property and equipment	(573)	(1,205)
Proceeds from sales of investments	17,386	21,946
Purchases of investments	(27,100)	(21,342)
Net cash used in investing activities	(10,287)	(601)
Net increase in cash and cash equivalents	2,394	13,934
Cash and cash equivalents at beginning of year	29,858	15,924
Cash and cash equivalents at end of year	$ 32,252	$ 29,858

The accompanying notes are an integral part of the financial statements.

(1) Organization and Operations

The Association of Universities for Research in Astronomy, Inc. (AURA) is an Arizona nonprofit corporation incorporated on October 28, 1957. AURA is a consortium of member United States (U.S.) universities and international affiliates engaged in constructing, operating, and maintaining astronomical research centers.

Member universities as of September 30, 2021, were:

Boston University
California Institute of Technology
Carnegie Institution for Science
Carnegie Mellon University
Cornell University
Fisk University
Georgia State University
Harvard University
Indiana University
Iowa State University
Johns Hopkins University
Keck Northeast Astronomy Consortium
Massachusetts Institute of Technology
Michigan State University
Montana State University
New Jersey Institute of Technology
New Mexico Institute of Mining and Technology
New Mexico State University
Ohio State University
Pennsylvania State University
Princeton University
Rutgers University
Smithsonian Astrophysical Observatory
Stanford University
Stony Brook University
Texas A&M University
University of Arizona
University of California at Berkeley
University of California at Santa Cruz
University of Chicago
University of Colorado
University of Florida
University of Hawaii
University of Illinois at Urbana-Champaign
University of Maryland
University of Michigan
University of Minnesota
University of North Carolina at Chapel Hill
University of Pittsburgh
University of Texas at Austin
University of Texas at San Antonio
University of Toledo
University of Virginia
University of Washington
University of Wisconsin-Madison
Vanderbilt University
Yale University

International affiliates as of September 30, 2021, were:

Leibniz-Institut für Sonnenphysik (KIS)
Pontificia Universidad Catolica de Chile
Universidad de Chile

(Amounts in thousands)

(1) Organization and Operations (Continued)

Effective October 1, 2019, in collaboration with the National Science Foundation (NSF), AURA integrated the activities of the National Optical Astronomy Observation (NOAO), the Gemini Telescope Project (Gemini), and the Vera C. Rubin Observatory (Rubin or LSST Operations) into a single Center named NSF's National Optical-Infrared Astronomy Laboratory (NOIRLab) under one cooperative agreement (CA) with the NSF. The collaboration of this matrix change is to enable research excellence across all the allied astronomical sciences including astronomy, astrometry, astrophysics, astrochemistry, astrobiology, and planetary science.

With the new structure, AURA operates the NOIRLab, the National Solar Observatory (NSO), and the Vera C. Rubin Observatory Construction (Rubin Construction or LSSTPO) under cooperative agreements with the NSF. AURA also operates the Space Telescope Project (STScI) under an agreement with the National Aeronautics and Space Administration (NASA). These federal agreements are dependent on annual Congressional appropriations and are summarized as follows:

Center	Agreement	Expiration Date
NOIRLab	NSF Cooperative Agreement AST-1546092	September 30, 2024
NSO	NSF Cooperative Agreement AST-0946422	September 30, 2024
LSSTPO	NSF Cooperative Agreement AST-1258333	December 31, 2023
STScI	NASA Contract NAS5-26555	June 30, 2026
STScI	NASA Contract NAS5-03127	May 29, 2022
STScI	NASA Contract 80GSFC19C0054	March 31, 2022

Performance of work under U.S. federal awards may be terminated whenever the sponsoring government agency shall determine that such termination is in the best interest of the U.S. government. Funding under all federal awards is subject to availability of funding as determined by the U.S. Congress. AURA's management is unaware of any significant changes to the federal agreements in the upcoming year that will significantly impact AURA's cash flow and its ability to pay current obligations as they become due.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting and Presentation

The financial statements of AURA are presented on the accrual basis of accounting and, accordingly, reflect receivables, payables, other liabilities, and net assets.

AURA's financial statements report resources in separate classes of net assets based on the existence or absence of donor or grantor-imposed restrictions. In the accompanying financial statements, net assets are classified and reported as follows:

(2) Summary of Significant Accounting Policies (Continued)

(a) Basis of Accounting and Presentation (continued)

- *Net assets without donor restrictions* – Net assets that are not subject to donor or grantor-imposed stipulations. Net assets without donor restrictions may be designated for specific purposes by action of the board of directors or may otherwise be limited by contractual agreements with outside parties.

- *Net assets with donor restrictions* – Net assets whose use by AURA are subject to donor or grantor-imposed stipulations that can be fulfilled by actions of AURA pursuant to those stipulations or that expire by the passage of time, or net assets subject to donor or grantor imposed restrictions that must be maintained in perpetuity by AURA.

(b) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make a number of estimates and assumptions that affect the reported amounts of assets, liabilities, and net assets and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues, gains, and other support, and expenses and losses during the reporting period. Actual results could differ from those estimates.

(c) Cash and Cash Equivalents

AURA considers all highly liquid investments used to fund current obligations with a maturity at date of purchase of three months or less to be cash equivalents in the accompanying Statements of Financial Position and Statements of Cash Flows.

(d) Investments

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Additional information is presented in note (7).

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Net appreciation or depreciation in fair value of investments includes the AURA's gains and losses on investments bought and sold as well as held during the year. Investment income or loss is included in the change in net assets without donor restriction unless their use is restricted by donor stipulations or by law.

(e) Fair Value of Financial Instruments

Financial instruments in the form of cash, accounts receivable, and accounts payable are carried at cost, which approximated fair value as of September 30, 2021 and 2020, due to the relatively short maturity of these instruments. Additional information is presented in note (7).

(2) Summary of Significant Accounting Policies (Continued)

(f) Accounts Receivable and Awards/Contracts Receivable

Awards/contracts receivable consist of amounts owed to AURA from the federal government based on costs incurred but not yet reimbursed under federal prime grants, contracts and cooperative agreements. Accounts receivable represents cost incurred but not yet reimbursed for other awards and contracts. No allowance is established for these receivables. Management considers the accounts fully collectible.

(g) Inventories

Inventories consist primarily of electronic parts inventories and are carried at the lower of cost or market. Cost is determined on the weighted average basis.

(h) Property and Equipment

Property acquired with noncontract funds or funds without donor restriction is titled to AURA without restriction and is recorded at cost. Donated items are recorded at their estimated fair market value when received. AURA reviews long-lived assets for impairment when indicators of impairment are present and the net undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amounts. AURA's capitalization threshold is $5.

Depreciation is calculated using the straight-line method over estimated useful lives as follows:

Buildings and improvements	40 years
Telescopes	50 years
Instruments	25 years
Equipment and vehicles	5 years
Leasehold Improvements	5 years

Equipment held under capital lease is amortized over the shorter of the lease term or the asset life. AURA had no capital leases as of September 30, 2021 and 2020.

Property acquired under the terms of the NSF and NASA agreements is owned by the United States Government. Based on the required logistics of operations, title to certain property is in the name of AURA, but is subject to the right of NSF to designate terms and conditions of disposal. Accordingly, such property is not reflected in the accompanying financial statements of AURA.

(2) Summary of Significant Accounting Policies (Continued)

(i) Accrued Vacation and Postemployment Benefits

Effective October 1, 2018, in agreement with the NSF, vacation leave under all NSF agreements is accrued and funded when earned by the employee. Prior to October 1, 2018, certain NSF agreements funded vacation benefits as the leave was taken, not as the leave was earned. Revenues for these unfunded accrued vacation liabilities was recognized consistent with NSF's Pay-as-you-go arrangement resulting in an accumulated unfunded accrued leave liability at September 30, 2018.

Postemployment benefits are mandatory severance payments (finiquitos) required by contract and Chilean law that are earned based on years of service. Prior to October 1, 2018, one NSF agreement funded finiquitos at the time the benefit is paid. Under this agreement, the finiquitos expense and corresponding revenue were recorded at the time the benefit was paid. It is management's opinion, based on the advice of legal counsel, that the liability for these benefits has been the responsibility of the NSF and as such no liability under this agreement was recorded in the financial statements as of September 30, 2018.

In agreement with the NSF, effective October 1, 2018, NSF will fund the historical accumulated accrued leave and unrecorded finiquinto benefits liabilities on an amortized basis over 15 years to resolve these unfunded liabilities. The total remaining unrecorded finiquitos liability as of September 30, 2021 and 2020, was $2,443 and $2,643, respectively.

Effective October 1, 2018, all NSF agreements fund finiquitos benefits as earned over the employees' years of service. The finiquitos expense and corresponding revenue are recorded as the benefits are earned. The finiquitos liability under these agreements, including the amortized portion of the previously unrecorded finiquitios liability, is recorded under accrued vacation and postemployment benefits on the Statement of Financial Position. The total finiquitos liability accrued as of September 30, 2021 and 2020, was $4,659 and $4,125, respectively.

(j) Revenue and Deferred Revenue Recognition

Awards and Contracts

Cooperative agreements awarded by NSF and certain other federal and non-federal awards and contracts, which are generally considered nonreciprocal transactions restricted by sponsors for certain purposes, are recognized as revenue when qualifying reimbursable expenses have been incurred and conditions under the agreements are met. AURA has elected the simultaneous release policy available for donor-restricted contributions that were initially conditional contributions, which allows a not-for-profit organization to recognize a restricted contribution directly in net assets without donor restrictions if the restriction is met in the same period that the revenue is recognized. The excess of cash advances over recognized revenues is recorded as deferred revenue award/contract revenues.

(Amounts in thousands)

(2) Summary of Significant Accounting Policies (Continued)

(j) Revenue and Deferred Revenue Recognition (continued)

Awards and Contracts (continued)

The percentage of awards considered exchange transactions for the years ended September 30, 2021 and 2020, respectively were as follows:

	2021	2020
NSF – cooperative Agreements	0%	0%
NASA – prime contracts	100%	100%
Other federal awards and contracts	42%	35%
Other nonfederal awards and contracts	100%	100%

For contracts treated as exchange transactions, AURA has the right to consideration from the sponsoring organization in an amount that corresponds directly with the value to the sponsoring organization of AURA's performance completed to date (costs incurred). For these agreements, AURA recognizes revenue in the amount to which AURA has the right to invoice.

For cooperative agreements, awards and contracts treated as nonreciprocal transactions, AURA estimates that its conditional awards outstanding at September 30, 2021 approximate historical annual sponsored program activity. The revenue related to these awards is conditioned on incurring allowable expenditures under the terms of the respective agreements.

Other Income

Other income is comprised of revenue recognized for fees generated from the use of AURA housing and lodging provided to visiting scientists, visitor center, and other miscellaneous revenues. Other income is recognized as services are rendered or over the term of the contract and invoiced based on contractual terms.

(k) Income Taxes

AURA has been recognized by the Internal Revenue Service (IRS) as a 501(c) (3) organization exempt from federal income taxes under Internal Revenue Service Code (IRC) Section 501(a). AURA follows the income tax standard for uncertain tax positions. Management believes it has no material uncertain tax positions or any related penalties and interest to accrue for the years ended September 30, 2021 and 2020, and, accordingly, there is no liability for unrecognized tax benefits. Tax years prior to 2018 are no longer subject to examination by the Internal Revenue Service or the applicable state jurisdictions.

(2) Summary of Significant Accounting Policies (Continued)

(l) Foreign Currency

Expenditures related to AURA operations in Chile are reimbursed by NSF based on the amount of U.S. dollars (USD) paid. These financial statements are presented in USD, which is AURA's presentation currency. Transactions denominated in foreign currencies are initially recorded at the rates of exchange prevailing on the dates of the transactions. Monetary and nonmonetary assets and liabilities denominated in such currencies are retranslated at the rates prevailing on the statement of financial position date. Foreign currency exchange differences arising on translation are recognized in the Statements of Activities.

(m) Postretirement Benefits

AURA accrues the postretirement benefit obligation when incurred. The portion of this obligation that has been recognized as a component of net periodic benefit cost is funded and the corresponding revenue has been recognized in the accompanying financial statements. See note 9 (b).

Certain NSF agreements fund postretirement benefits at the time the benefit is paid. For these agreements it is management's opinion, based on the advice of legal counsel, that the accumulated postretirement benefit obligation is the responsibility of the NSF and as such the obligation has not been recorded in the financial statements. Expense and corresponding revenue for these postretirement benefits are recognized consistent with NSF's pay-as-you go funding arrangement. See note 12 (a).

(n) New Accounting Pronouncements

Adoption of ASU 2014-09, Revenue from Contracts with Customers (Topic 606)

AURA adopted Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2014-09 (Topic 606): Revenue from Contracts with Customers (ASU 2014-09) effective October 1, 2019, which updates numerous requirements in US GAAP, eliminates industry-specific guidance, and provides entities with a single model for recognizing revenue from contracts with customers. ASU 2014-09 requires entities to identify contractual performance obligations and determine whether revenue should be recognized at a point in time or over time, based on when control of goods and services transfers to a customer. AURA adopted ASU 2014-09 and all related amendments using the modified retrospective method as of October 1, 2019, and applied the standard to contracts that were not complete as of the adoption date. The cumulative effect of applying the new standard on the statement of financial position as of October 1, 2019 was recognized as an adjustment to the opening net assets without donor restrictions, decreasing beginning net assets without donor restrictions by $6,407, with a corresponding increase in deferred revenue.

(2) Summary of Significant Accounting Policies (Continued)

(n) New Accounting Pronouncements (continued)

ASU 2018-14 Compensation – Retirement Benefit: Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans

During 2021, AURA adopted FASB ASU 2018-14, Compensation – Retirement Benefit: Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans. The amendments in this update remove disclosures that no longer are considered cost beneficial, clarify specific requirements of disclosures, and add disclosure requirements identified as relevant. As required by ASU 2018-14, AURA applied the requirements on a retrospective to all periods presented.

ASU 2020-05 Revenue from Contracts with Customers (Topic 606) and Leases (Topic 842) Effective Dates for Certain Entities

In June 2020, FASB issued ASU 2020-05, which provided an optional one-year deferral of the effective date of *Leases (Topic 842)*. Topic 842 requires recognition of rights and obligations arising from leases contracts as assets and liabilities on the statement of financial position and is effective for AURA in fiscal year 2023. AURA is evaluating the effect that leases under Topic 842 will have on its financial statements and related disclosures.

(j) Reclassifications

Certain amounts in the prior period have been reclassified to conform to the current year's presentation. These reclassifications have no effect on previously reported net assets.

(3) Concentrations of Risk

AURA's financial instruments that are exposed to concentrations of credit risk consist primarily of cash, investments, awards/contracts receivable, and revenues.

AURA maintains its cash balances at several financial institutions which, at times, may exceed federally insured limits. Total cash deposits held at financial institutions subject to federally insured limits were $32,149 and $30,617, as of September 30, 2021 and 2020, respectively. AURA also maintains balances in foreign banks which are used to fund current operations. Foreign deposits, which are uninsured, amounted to $2,488 and $1,343 as of September 30, 2021 and 2020, respectively.

Awards/contracts receivable as of September 30, 2021 and 2020, are primarily due from the NSF and NASA. Revenues without donor restrictions for research under the primary contracts with these entities totaled approximately $326,095 and $330,562 for the years ended September 30, 2021 and 2020, respectively. Other contract funds also include revenues without donor restrictions from the NSF and NASA.

(Amounts in thousands)

(4) Assets Held For Others

AURA holds custody of assets for CONICYT, the Small and Moderate Aperture Research Telescope System 2 project, AURA's 457 (b) deferred compensation trust, AURA's rabbi trust, property for the U.S. Department of Energy named the Dark Energy Camera (DECAM), and equipment for the Chinese Academy of Science, South America Center for Astronomy (CASSACA). These assets held for others is to facilitate and in support of the science community. As of September 30, total assets held for others and related liabilities are comprised of the following:

	2021	2020
Cash and cash equivalents	$ 1,464	$ 888
Investments (note 7)	12,137	11,827
Property and equipment	16,076	16,076
Total assets held for others	$ 29,677	$ 28,791

(5) Liquidity and Availability of Financial Assets

Financial assets available within one year of the statement of financial position as of September 30 for general expenditure are as follows:

Financial assets, at year end	2021	2020
Cash and cash equivalents	$ 32,252	$ 29,858
Assets held for others (cash and cash equivalents and investments)	13,601	12,715
Investments	27,193	17,679
Accounts Receivable	15,318	10,313
Awards/contracts receivable	4,624	8,366
	92,988	78,931
Less:		
Assets held for others (note 4)		
Cash and cash equivalents	(1,464)	(888)
Investments	(12,137)	(11,827)
Funds restricted by grantor with purpose restrictions	(398)	(53)
	(13,999)	(12,768)
Financial assets available to meet cash needs for general expenditures within one year	$ 78,989	$ 66,163

AURA is substantially supported by cost reimbursable or pay-as-you-go agreements with the NSF and NASA, which include indirect cost recovery. As part of liquidity management, AURA has a policy to structure its financial assets to be available as its general expenditures, liabilities, and other obligations come due. In addition, AURA invests cash in excess of daily requirements in short-term investments.

(Amounts in thousands)

(6) Investments

AURA invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and those changes could materially affect the amounts reported in the statements of financial position.

AURA investment income consisted of the following for the years ended September 30:

	2021	2020
Interest	$ 488	$ 448
Net realized and unrealized (losses) gains	(200)	165
Total investment income	$ 288	$ 613

(7) Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value measurements maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1 — Inputs that reflect unadjusted quoted prices in active markets for identical assets or liabilities that AURA has the ability to access at the measurement date.

Level 2 — Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Inputs that are unobservable and supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs. In determining the appropriate levels, AURA performs a detailed analysis of the assets and liabilities that are subject to the Fair Value Topic. At each reporting period, all assets and liabilities for which the fair value measurement is based on significant unobservable inputs are classified as Level 3. AURA had no level 3 inputs as of September 30, 2021 and 2020. There have been no changes in the valuation methodologies used during the current year. All assets have been valued using a market approach.

(Amounts in thousands)

(7) Fair Value Measurements (Continued)

Following is a description of the valuation methodologies used for assets measured at fair value.

Fixed income securities: AURA's fixed maturity investments include certificate of deposits, U.S. Treasury securities, mutual funds, and bonds. Other than U.S. Treasury securities and mutual funds, these investments generally do not trade on a daily basis. The fair value estimates of such securities are based on prices provided by AURA's investment managers and custodian bank. These investments are traded in secondary markets and are typically valued using unadjusted vendor prices. These prices are reviewed and may be adjusted using quoted market prices for similar securities if determined necessary. Certificate of deposits are valued using rates currently offered for deposits of similar remaining maturities. AURA fixed income securities have no restrictions or unfunded commitments.

Equity and other investments: AURA's equity and other investments securities include equity securities and mutual funds. These securities are actively traded on major trade exchanges and valued at daily closing price.

The following tables present AURA's investments measured at fair value by classification within the fair value hierarchy as of September 30:

	2021		
	Level 1	**Level 2**	**Total Fair Value**
Fixed income:			
Money market	$ 231	$ -	$ 231
Certificates of deposit	-	4,225	4,225
U.S. treasury bills	-	3,016	3,016
Fixed income - mutual funds	130	-	130
Government bonds	-	1,000	1,000
Corporate and foreign bonds	-	17,294	17,294
Total fixed income	361	25,535	25,896
Equity and other investments:			
U.S. equity	884	-	884
Non-US equity	413	-	413
Total equity and other investments	1,297	-	1,297
Total investments	$ 1,658	$ 25,535	$ 27,193

(Amounts in thousands)

(7) Fair Value Measurements (Continued)

	2020		
	Level 1	**Level 2**	**Total Fair Value**
Fixed income:			
Money market	$ 247	$ -	$ 247
Certificates of deposit	-	4,972	4,972
U.S. treasury bills	-	1,000	1,000
Fixed income - mutual funds	129	-	129
Government bonds	-	1,004	1,004
Corporate and foreign bonds	-	9,296	9,296
Total fixed income	376	16,272	16,648
Equity and other investments:			
U.S. equity	709	-	709
Non-US equity	322	-	322
Total equity and other investments	1,031	-	1,031
Total investments	$ 1,407	$ 16,272	$ 17,679

The following table presents investments held for others measured at fair value by classification within the fair value hierarchy as of September 30:

	2021		
	Level 1	**Level 2**	**Total Fair Value**
Fixed income:			
Corporate and foreign bonds	$ -	$ 4,930	$ 4,930
Government bonds	-	356	356
Fixed income - mutual funds	795	-	795
Foreign money market	2,051	-	2,051
Foreign government securities	-	157	157
Total fixed income	2,846	5,593	8,289
Equity and other investments:			
U.S. equity	2,198	-	2,198
Non-U.S. equity	175	-	175
Stable value	-	150	150
Target dates - mutual funds	1,324	-	1,324
Total equity and other investments	3,697	150	3,847
Total investments held for others	$ 6,543	$ 5,593	$ 12,137

(Amounts in thousands)

(7) Fair Value Measurements (Continued)

	2020		
	Level 1	Level 2	Total Fair Value
Fixed income:			
Corporate and foreign bonds	$ -	$ 5,502	$ 5,502
Government bonds	-	250	250
Fixed income - mutual funds	713	-	713
Foreign money market	2,060	-	2,060
Foreign government securities	-	156	156
Total fixed income	2,773	5,908	8,681
Equity and other investments:			
U.S. equity	1,545	-	1,545
Non-U.S. equity	154	-	154
Stable value	-	388	388
Target dates - mutual funds	1,058	-	1,058
Real estate	1	-	1
Total equity and other investments	2,758	388	3,146
Total investments held for others	$ 5,531	$ 6,296	$ 11,827

(8) Property and Equipment

(a) Property owned by AURA

Property acquired with noncontract or funds without donor restrictions is titled to AURA without restriction and consists of the following as of September 30:

	2021	2020
Land and improvements	$ 279	$ 279
Buildings and improvements	1,195	1,195
Telescopes and research instruments, located in Chile	5,000	5,000
Equipment and Vehicles	779	741
Leasehold improvements	5,061	3,710
	12,314	10,925
Less accumulated depreciation and amortization	(9,681)	(7,471)
Total	$ 2,633	$ 3,454

(Amounts in thousands)

(8) Property and Equipment (Continued)

(b) Property owned by NSF

Property acquired under the terms of the NSF agreements is owned by the United States Government. This property is not recorded in the accompanying financial statements and consists of the following as of September 30:

	2021	2020
Land and improvements	$ 7,036	$ 7,036
Buildings and improvements	52,429	41,863
Telescopes	263,619	263,390
Instruments	150,188	149,937
Equipment and vehicles	50,645	49,364
Other-inventory	847	847
Construction work-in-process:		
Building construction and instrument fabrication	899,698	848,868
	$ 1,424,462	$ 1,361,305
Less: accumulated depreciation	(253,267)	(240,862)
Total	$ 1,171,195	$ 1,120,443

Pending guidance from the NSF, property acquired under the NOIRLab indirect pools is not reflected in the schedule above or in the accompanying statements of financial position. Total property of $442 and $184 was acquired during the years ended September 30, 2021 and 2020, respectively, and is included as a component of research activities expense in the accompanying statements of activities.

(9) Retirement Benefits

(a) Retirement Plan

AURA sponsors a defined contribution retirement plan (AURA, Inc. Money Purchase Pension Plan and Trust) which is qualified under Sec. 401 (a) of the Internal Revenue Code of 1986. Substantially all employees of AURA are eligible to participate in the Plan. AURA's contribution to the Plan equals 10% of the participant's compensation, as defined in the Plan document. The Money Purchase Pension Plan and Trust does not permit voluntary contributions. AURA also sponsors a defined contribution retirement plan, the AURA 403 (b) Savings Plan, to which AURA employees may make voluntary contributions. AURA does not contribute to the 403 (b) Saving Plan.

During the years ended September 30, 2021 and 2020, AURA contributed $14,890 and $13,134, respectively, to the Money Purchase Pension Plan and Trust.

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions

AURA also maintains a nonqualified Section 457(b) deferred compensation plan allowing top hat executives to elect to defer compensation up to the maximum allowed under IRS regulations. AURA does not contribute to this plan. As of September 30, 2021, and 2020, the balance in the 457(b) deferred compensation plan was $4,643 and $3,858, respectively, and was included with the assets held for others (see note 4).

AURA provides lifetime postretirement medical coverage (the Plan) to qualified employees and their dependents based on employee age and years of service, as defined in the plan document.

The Plan is noncontributory for eligible participants retiring prior to January 1, 2007, with cost sharing requirements for eligible participants retiring on or after January 1, 2007; at Gemini, dependents of participants retiring after October 1, 1991, are required to pay 50% of expected premiums. AURA has established a trust under Section 501(c)(9) of the Internal Revenue Code to fund the postretirement medical benefits for the AURA accrued when earned employees. In the event of termination of the contracts with NASA and NSF, the unfunded obligations are anticipated to be paid from contract termination funds.

AURA does not expect to make a contribution to its postretirement plan in fiscal year 2022.

Postretirement related changes other than net periodic postretirement benefit cost included the following during the years ended September 30:

	2021	2020
Net actuarial gain	$ (5,995)	$ (8,323)
Amortization of net loss	-	(1,376)
Amortization of prior service cost	-	82
Total	$ (5,995)	$ (9,617)

The cumulative amounts recognized as changes in net assets without donor restriction but not yet reclassified as components of net periodic benefit cost consist of the following for the years ended September 30:

	2021	2020
Actuarial loss (note 10)	$ 4,843	$ 10,838

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

The reconciliation of the postretirement plan's funded status to amounts recognized in the financial statements is as follows at September 30:

	2021	2020
Change in projected benefit obligation:		
Projected benefit obligation, beginning of year	$ 42,744	$ 50,223
Service cost	594	774
Interest cost	1,057	1,492
Actuarial gain	(1,269)	(9,123)
Benefits paid	(976)	(789)
Participant contributions	112	117
Medicare Part D reimbursement	58	50
Projected benefit obligation, end of year	42,320	42,744
Change in plan assets:		
Fair value of plan assets, beginning of year	$ 32,701	$ 31,380
Actual return on plan assets	6,983	1,360
Employer contributions	1,460	622
Participant contributions	112	117
Benefits paid	(976)	(789)
Medicare Part D reimbursement	58	50
Plan expenses	(28)	(39)
Fair value of plan assets, end of year	40,310	32,701
Funded Status - in liabilities	$ (2,010)	$ (10,043)

During the year ended September 30, 2021, the APBO decreased primarily due to the increase in the discount rate of 25 basis points, which when considered with all other demographic changes, resulted in a total actuarial gain of $1,269.

During the year ended September 30, 2020, AURA implemented a two-year lookback for claims experience, placing 60% weight on the most recent year and 40% weight on the prior year. This revision to the approach on claims census data resulted in a decrease to the Plan's APBO of approximately $9,000 during 2020. The gain from the claims assumption change was offset by a loss from a decrease in the discount rate of 50 basis points, which when considered with all other demographic changes, resulted in a total actuarial gain of $9,123.

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

On a weighted average basis, the following assumptions were used in accounting for the Plan:

	2021	**2020**
Discount rate	2.75%	2.50%
Rate of return	7.00%	7.00%
Health care cost trend rate – initial	5.30%	5.40%
Health care cost trend rate – ultimate	3.90%	3.90%
Year ultimate reached	2075	2075
Corridor	10.00%	10.00%
Recognition period for losses	7.09years	7.51years
Measurement date	9/30	9/30

The assumptions disclosed at September 30, are used to determine net periodic postretirement benefit cost for the following year.

Net periodic post retirement benefit (credit) cost for the year ended September 30 consists of the following:

	2021	**2020**
Operating - Service Cost	$ 594	$ 774
Other changes:		
Interest Cost	1,057	1,492
Expected return on plan assets	(2,257)	(2,161)
Amortization of prior service cost	-	(82)
Amortization of actuarial loss	-	1,376
Total other changes	(1,200)	625
Net periodic postretirement benefit (credit) cost	$ (606)	$ 1,399

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

The following table sets forth the expected benefit payments for the next ten years:

Year Ending September 30:	Amount
2022	$ 1,029
2023	1,014
2024	1,095
2025	1,236
2026	1,365
2027 to 2031	8,314

AURA's investment policy as it relates to plan assets is to meet or exceed the actuarial assumed rate of return. The investment policy includes an asset allocation range of:

Cash and cash equivalents	0 - 15%
Fixed income	20 - 40%
Equity	60 - 80%
Alternatives	0 - 15%

The following table sets forth the Plan's weighted-average asset allocations as of September 30, by asset category:

	2021	2020
Cash and cash equivalents	2.17%	2.18%
Fixed income	27.67%	29.16%
Equity	70.16%	68.66%
Alternative investments - mutual funds	0.00%	0.00%
Total	100%	100%

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 provides for a federal subsidy to sponsors of retiree health care benefit plans that provide a benefit that is at least actuarially equivalent to the benefit established by law. The accrued postretirement benefit obligation as of September 30, 2021, reflects an estimated subsidy of $502 (figure not in thousands) per eligible participant.

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

The following table presents the Plan assets measured at fair value by classification within the fair value hierarchy as of September 30 (See note 7 for fair value techniques and inputs):

	2021	2020
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Quoted Prices in Active Markets for Identical Assets (Level 1)
Fixed income:		
Money market	$ 872	$ 710
Fixed income - mutual funds (MF)	11,168	9,550
Total fixed income	12,040	10,260
Equity and other investments:		
U.S. large equity - MF/ETF	5,910	4,086
U.S. small/mid equity - MF/ETF	2,823	2,176
Non-U.S. equity - MF/ETF	3,481	3,099
Non-U.S. equity (emerging) - MF/ETF	1,819	1,385
Common stock	13,167	10,865
Real estate – MF	1,070	830
Total equity and other investments	28,270	22,441
Total plan assets	$ 40,310	$ 32,701

(Amounts in thousands)

(10) Net Assets

(a) Without donor restrictions

Net assets without donor restrictions is comprised of net (deficits) assets resulting from differences in revenue and expense recognition under federal awards as described below, and other undesignated amounts for the following purposes as of September 30:

	2021	2020
Accumulated postretirement benefit obligation not recognized as components of net periodic benefit costs (note 2(m) and 9(b))	$ (4,533)	$ (10,420)
Unbilled accrued vacation	(1,933)	(2,116)
Total net deficit from timing differences under federal awards	(6,466)	(12,536)
Undesignated	10,304	7,014
Total net assets (deficit) without donor restrictions	$ 3,838	$ (5,522)

A portion of the expense recognized for postretirement benefits (STScI) and vacation benefits (NOIRLab and NSO) is considered billable to federal awards when the liability becomes current as opposed to when the costs are accrued. Therefore, although the expenses have been accrued as earned, the related federal award revenue is recorded when the liability becomes current and the costs are billable. This timing difference between the revenue and expense may create an accumulated net deficit within the net assets without donor restrictions balance (see note 12(a)). The deficit in total net assets without donor restrictions of $5,522 at September 30, 2020, does not impact AURA's ability to fund operations or accomplish programmatic objectives but rather reflects the required recognition of the long-term actuarially determined liabilities as measured at the statement of financial position date and the unbilled accrued vacation.

(b) With donor restrictions

Net assets with donor restrictions are $398 and $53 at September 30, 2021 and 2020, respectively, of which $53 is restricted for Kitt Peak Visitor Center and De Mastus Memorial Fund at both year ends, and $345 is available for prizes at September 30, 2021.

There were no released grantor restrictions as of September 30, 2021 and 2020.

AURA had no net assets that must be maintained in perpetuity as of September 30, 2021 and 2020.

(Amounts in thousands)

(11) Functional Expenses Grouped by Natural Classification

Expenses are presented by functional classification in accordance with the overall service mission of AURA. AURA's primary program service is research activity. Natural expenses attributable to more than one functional expense category are allocated using a variety of cost allocation techniques such as square footage and headcount.

Expenses by functional and natural classification for the years ended September 30 were as follows:

	2021						
	Research Activity				Total Research	Management	
	NOIRLab	NSO	LSSTPO	STScI	Activity	and General	Total
Salaries, wages, and benefits	$ 42,928	$ 21,022	$ 11,492	$ 106,474	$ 181,916	$ 19,635	$ 201,551
Supplies and materials	4,840	2,129	2,381	960	10,310	860	11,170
Travel	638	309	59	156	1,162	18	1,180
Conferences and meetings	266	73	133	254	726	215	941
Office and occupancy	3,930	1,971	205	200	6,306	4,265	10,571
Insurance	180	69	24	1	274	331	605
Postage and delivery	188	88	650	1	927	68	995
Professional services	14,355	6,628	19,815	26,872	67,670	4,359	72,029
Lease equipment and vehicles	417	214	357	2	990	73	1,063
Repair and maintenance	1,133	212	215	3,461	5,021	572	5,593
Equipment expensed to government	2,579	1,498	417	2,779	7,273	233	7,506
Grant programs and awards	8,934	80	-	29,802	38,816	-	38,816
Depreciation and amortization	100	-	-	28	128	1,266	1,394
Total expenses	$ 80,488	$ 34,293	$ 35,748	$ 170,990	$ 321,519	$ 31,895	$ 353,414

(Amounts in thousands)

(11) Functional Expenses Grouped by Natural Classification (Continued)

	2020						
	Research Activity				Total Research	Management	
	NOIRLab	NSO	LSSTPO	STScI	Activity	and General	Total
Salaries, wages, and benefits	$ 44,822	$ 23,307	$ 12,509	$ 101,346	$ 181,984	$ 17,341	$ 199,325
Supplies and materials	3,983	2,324	2,308	1,244	9,859	1,613	11,472
Travel	1,441	535	479	962	3,417	421	3,838
Conferences and meetings	396	79	193	657	1,325	335	1,660
Office and occupancy	2,755	1,906	143	1,670	6,474	3,393	9,867
Insurance	129	57	32	11	229	186	415
Postage and delivery	151	175	365	13	704	37	741
Professional services	10,370	6,647	27,398	27,580	71,995	4,358	76,353
Lease equipment and vehicles	172	123	158	12	465	25	490
Repair and maintenance	1,011	249	427	2,856	4,543	463	5,006
Equipment expensed to government	1,940	2,206	222	4,975	9,343	343	9,686
Grant programs and awards	5,351	266	-	35,676	41,293	-	41,293
Depreciation and amortization	100	-	-	170	270	574	844
Total expenses	$ 72,621	$ 37,874	$ 44,234	$ 177,172	$ 331,901	$ 29,089	$ 360,990

(Amounts in thousands)

(12) Commitments and Contingencies

(a) Contract Termination

The NASA and NSF agreements are subject to termination at the discretion of the United States Government. Under the terms of the NASA contract, the United States Government will not be obligated to reimburse termination costs beyond the limits of the most current levels of obligated funds. However, NASA will use its best efforts to pay phase-out costs within a stated ceiling amount if the contract is not optionally renewed. Under the terms of the NSF Cooperative Agreements, termination costs will be reimbursed subject to the availability of appropriated funds. Management's opinion is that termination of current awards by NASA and NSF is unlikely. No termination or phase-out costs have been accrued as of September 30, 2021 or September 30, 2020.

The unfunded liabilities, in the event of termination, included in the statements of financial position as of September 30 include the following:

	2021	2020
Accumulated postretirement benefit obligation not recognized as components of net periodic benefit costs (note 2 (m) and 9 (b))	$ 4,533	$ 10,420
Unbilled accrued vacation	1,933	2,116
Total unfunded liabilities	$ 6,466	$ 12,536

It is management's opinion, based on the advice of legal counsel, that the certain obligations including postretirement benefit obligations and postemployment benefit obligations for NOAO and NSO employees employed by AURA have been the responsibility of the NSF and as such they have not been recorded in the financial statements. Expense and corresponding revenue for these benefits are recognized consistent with NSF's pay-as-you go funding arrangement. In the event of termination, the unfunded liabilities of NSF related to AURA employees that are not included in the statements of financial position as of September 30 include the following:

	2021	2020
NOAO and NSO employees' unrecorded postretirement benefit obligations	$ 5,717	$ 7,989
NOAO employees' unrecorded postemployment benefit obligations (finiquitos)	2,443	2,643
Total unrecorded obligations belonging to NSF	$ 8,160	$ 10,632

(Amounts in thousands)

(12) Commitments and Contingencies (Continued)

In agreement with the NSF, effective October 1, 2018, NSF will fund the unbilled accrued vacation and finiquinto benefits liabilities on an amortized basis over 15 years to resolve these unrecorded liabilities. In addition, effective October 1, 2018, NSF will fund current vacation and finiquinto benefits for all awards as the benefits are earned.

The unrecorded postretirement benefit obligations relate to lifetime postretirement medical coverage provided by AURA to qualified employees and their dependents based on employee age and years of service to NOAO and NSO employees. NOAO and NSO employees hired by AURA prior to July 1, 1990, qualify. Dependents of participants retiring after October 1, 1991, are required to pay 50% of expected premiums.

Actuarial assumptions used in estimating the unrecorded postretirement benefits obligation are described in note 9 (b). Changes to these assumptions may have a significant effect on the amounts reported.

The following table sets forth the expected benefit payments for the next ten years:

Year Ending September 30:	Amount
2022	$ 407
2023	405
2024	400
2025	400
2026	364
2027 to 2031	1,638

In the event of termination of the contracts, additional termination costs may be incurred; however, not all of these costs are practical to measure until, and if, actual termination occurs.

(b) Open Purchase Orders and Contracts

Commitments under open purchase orders and contracts total $53,611 and $60,671 as of September 30, 2021 and 2020, respectively.

(Amounts in thousands)

(12) Commitments and Contingencies (Continued)

(c) Operating Leases

AURA leases property and equipment under non-cancelable operating leases. Rent expense under all operating leases for the years then ended September 30, 2021 and 2020, totaled $4,862 and $3,936 respectively.

Estimated minimum annual lease payments on these leases are as follows:

Year Ending September 30:	Amount
2022	$ 3,400
2023	2,445
2024	1,692
2025	279
2026	259
Total	$ 8,075

In addition to the above leases, AURA has entered into other short-term, cancelable leases for rental of land, buildings, and equipment.

(Amounts in thousands)

(13) Related Party Transactions

(a) Consortia

AURA is a member of two consortia formed to construct and operate telescopes. The WIYN Consortium (WIYN) designed, built, and now operates two telescopes on Kitt Peak in Arizona. The SOAR Consortium, Inc. (SOAR) constructed and now operates a telescope in Chile. All individuals who perform services for WIYN and SOAR are employees of AURA and are provided to WIYN and SOAR under shared services agreements with AURA. Transactions between AURA and the consortia were as follows as of and for the years ended September 30:

WIYN

	2021	2020
AURA monetary membership dues	$ 2,239	$ 1,953
AURA services provided under shared services agreement	3,413	1,747
AURA receivable due from WIYN	1,055	469

SOAR

	2021	2020
AURA nonmonetary membership dues	$ 156	$ 57
AURA monetary membership dues	944	1,581
AURA services provided under shared services agreement	2,233	1,494
AURA receivable (payable) from SOAR	294	(388)

(b) Other

LSST, Inc.

AURA is a member of LSST, Inc., an Arizona nonprofit corporation. LSST, Inc. was formed to design, develop, construct, and operate a large aperture wide-field survey telescope. As of September 30, 2015, LSST transferred the M1/M3 Mirror, M2 Mirror, and the work in progress which consists of site selection and preparation costs and other intellectual property to AURA. AURA is continuing the development of the mirror and telescope. LSST remains a partner with AURA in the construction of LSST and serves as a fundraising partner to secure additional contributions for the LSST project. All individuals who perform services for LSST, Inc. are employees of AURA and are provided to LSST, Inc. under a shared services agreement with AURA.

(Amounts in thousands)

(13) Related Party Transactions (Continued)

LSST, Inc. (continued)

Transactions between AURA and LSST, Inc. were as follows as of and for the years ended September 30:

	2021	2020
AURA research contributions	$ 25	$ 25
AURA services provided under shared services agreement	530	379
AURA receivable due from LSST, Inc.	179	248

Board Members

AURA operates a grants award program on behalf of NASA. At times, AURA Board Members through their institutions are direct recipients of these grants. Total amounts awarded as of September 30, 2021 and 2020, were $13 and $81, respectively.

(14) Risks and Uncertainties

The spread of a novel strain of coronavirus ("COVID-19") has caused significant business disruptions in the United States beginning in the first quarter of 2020. The economic impact of the business disruptions caused by COVID-19 is uncertain. The extent of any effects these disruptions may have on the operations and financial position of AURA will depend on future developments, which cannot be determined at this time.

(15) Subsequent Events

AURA has evaluated subsequent events from the statement of financial position date through June 27, 2022, the date at which the financial statements were issued and determined that there were no other items to disclose.

SUPPLEMENTARY INFORMATION

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
SCHEDULES OF PROPERTY OWNED BY THE UNITED STATES OF AMERICA – NSF
September 30, 2021 and 2020

(Amounts in thousands)

The following property has been acquired under the terms of the NSF agreements and is owned by the United States Government. The property is utilized by AURA and is not recorded in the accompanying financial statements as of September 30:

2021

	NOIRLab	NSO	NOIRLab (Gemini)	LSSTPO	Total
Property:					
Land and improvements	$ 4,204	$ 2,805	$ 27	$ -	$ 7,036
Buildings and improvements	17,688	11,778	16,535	6,428	52,429
Telescopes	31,839	14,787	216,993	-	263,619
Instruments	35,204	16,364	98,620	-	150,188
Equipment and vehicles	30,198	9,911	9,713	823	50,645
Other - Inventory	-	-	847	-	847
Construction work-in-progress: Building construction and instrument fabrication	38	374,152	28,650	496,858	899,698
	119,171	429,797	371,385	504,109	1,424,462
Less: accumulated depreciation	(80,592)	(39,633)	(132,287)	(755)	(253,267)
Total	$ 38,579	$ 390,164	$ 239,098	$ 503,354	$ 1,171,195

2020

	NOIRLab	NSO	NOIRLab (Gemini)	LSSTPO	Total
Property:					
Land and improvements	$ 4,204	$ 2,805	$ 27	$ -	$ 7,036
Buildings and improvements	14,016	11,814	15,810	223	41,863
Telescopes	31,839	14,787	216,764	-	263.390
Instruments	34,953	16,364	98,620	-	149,937
Equipment and vehicles	30,262	9,172	9,142	788	49,364
Other - Inventory	-	-	847	-	847
Construction work-in-progress: Building construction and instrument fabrication	3,903	357,301	23,205	464,459	849,868
	119,177	412,243	364,415	465,470	1,361,305
Less: accumulated depreciation	(78,386)	(38,664)	(123,313)	(499)	(240,862)
Total	$ 40,791	$ 373,579	$ 241,102	$ 464,971	$ 1,120,443

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
DISCLOSURES OF PROPERTY OWNED BY THE UNITED STATES OF AMERICA – NASA
(Unaudited)
September 30, 2021 and 2020
(Amounts in thousands)

Property has been acquired under the terms of the NASA agreements and is owned by the United States Government. The property is utilized by AURA and is not recorded in the accompanying financial statements. The amounts are reflected at historical cost with no allowance for accumulated depreciation. Total equipment and vehicles as of September 30, 2021 and 2020, were $44,532 and $42,964, respectively.

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ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

SINGLE AUDIT REPORTS

Year Ended September 30, 2021

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Independent Auditor's 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*

To the Board of Directors
Association of Universities for Research in Astronomy, Inc.
Washington, DC

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 Association of Universities for Research in Astronomy, Inc. ("AURA"), which comprise the statement of financial position as of September 30, 2021, 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 27, 2022.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered AURA's internal control over financial reporting ("internal control") as a basis for designing 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 AURA's internal control. Accordingly, we do not express an opinion on the effectiveness of AURA's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies, and therefore, material weaknesses or significant deficiencies may exist that have not been identified. However, as described in the accompanying schedule of findings and questioned costs we did identify a certain deficiencies in internal control that we consider to be a material weakness and a significant deficiency.

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. We consider the deficiency described in the accompanying schedule of findings and questioned costs as item 2021-001 to be a material weakness.

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. We consider the deficiency described in the accompanying schedule of findings and questioned costs as item 2021-002 to be a significant deficiency.

CohnReznick

To the Board of Directors
Association of Universities for Research in Astronomy, Inc.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether AURA'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 financial statements. 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*.

AURA's Response to Findings

AURA's response to the findings identified in our audit is described in the accompanying schedule of findings and questioned costs. AURA's responses were not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

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 organization'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.

CohnReznick LLP

Bethesda, Maryland
June 27, 2022

Independent Auditor's Report on Compliance for Each Major Federal Program and Report on Internal Control over Compliance in Accordance with the Uniform Guidance

To the Board of Directors
Association of Universities for Research in Astronomy, Inc.
Washington, DC

Report on Compliance for Each Major Federal Program

We have audited Association of Universities for Research in Astronomy, Inc.'s ("AURA") compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on AURA's major federal program for the year ended September 30, 2021. AURA's major federal program is 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 federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for AURA's major federal program 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 AURA'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 its major federal program. However, our audit does not provide a legal determination of AURA's compliance.

Opinion on Major Federal Program

In our opinion, AURA complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended September 30, 2021.

Report on Internal Control over Compliance

Management of AURA 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 AURA's internal control over compliance with the types of requirements that could have a direct and material effect on its major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for its major federal program and to test and report on internal control over compliance

CohnReznick

To the Board of Directors
Association of Universities for Research in Astronomy, Inc

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 AURA'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. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

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 Required by the Uniform Guidance

We have audited the financial statements of AURA as of and for the year ended September 30, 2021, and have issued our report thereon dated June 27, 2022, 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 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.

CohnReznick LLP

Bethesda, Maryland
June 27, 2022

AURA SECTION

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2021

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal Assistance Listing Number	Pass-Through Award Number	Total Federal Expenditures	Provided To Subrecipients
Research and Development Cluster				
National Science Foundation				
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1421197	47.049	N/A	$ 19,501,382	$ 1,266,836
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0808409 - CSA AST-0950945	47.049	N/A	(2,322)	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1557260	47.049	N/A	(25,889)	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1559596	47.049	N/A	1,919,697	1,915,618
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1839157	47.049	N/A	1,049,284	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-2013059	47.049	N/A	7,335,403	5,396,316
Mathematical and Physical Sciences, AST-1637359	47.049	N/A	44,058	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1853386	47.049	N/A	301,760	-
Mathematical and Physical Sciences, AST-2021148	47.049	N/A	30,175	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1400450	47.049	N/A	15,706,215	14,045
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1011851	47.049	N/A	19,759,562	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1023439	47.049	N/A	512,818	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1539773	47.049	N/A	29,415,228	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1839225	47.049	N/A	4,504,561	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1258333 - CSA AST-1202910	47.049	N/A	38,803,885	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092- CSA AST-1836783	47.049	N/A	3,186,966	328,276
Mathematical and Physical Sciences, AST 1816196	47.049	N/A	135	-
Mathematical and Physical Sciences, Pass-through from New Jersey Institute of Technology	47.049	996828	10	-
Mathematical and Physical Sciences, Pass-through from New Jersey Institute of Technology	47.049	997199	27,053	-
Mathematical and Physical Sciences, Pass-through from New Mexico State University	47.049	Q02122	208,100	-
Mathematical and Physical Sciences, Pass-through from American Museum of Natural History	47.049	A90-2020-02	10,582	-
Total for ALN 47.049			142,288,663	8,921,091
Education and Human Resources, Pass-through from San Jose State University Research Foundation	47.076	21-1507-6197-STScI	1,622	-
Total for ALN 47.076			1,622	-
Total National Science Foundation			142,290,285	8,921,091
National Aeronautics and Space Administration				
Science, NNH17IA04P	43.000	N/A	252,719	-
Contract NAS5-03127, Support for Space Telescope Science Institute	43.000	N/A	91,182,639	-
Contract NAS5-03127, Grant Program	43.000	N/A	827,386	739,393
Contract NAS5-26555, Support for Space Telescope Science Institute	43.000	N/A	37,848,955	-
Contract NAS5-26555, Grant Program	43.000	N/A	32,842,706	28,988,112
Contract 80GSFC19C0054, Wide-Field Infrared Survey Telescope	43.000	N/A	15,449,147	-
Contract NNA09DA83C, Kepler Data Management Center (Phase E)	43.000	N/A	(2,797)	-
Extragalactic Potential Observations (EXPO), Pass-through from University of California Santa Cruz	43.000	A16-0381-S001-P0600214	63,161	-
The Solar Dynamics Observatory (SDO) Helioseismic and Magnetic Imager Investigation - Second Extended Mission, Pass-through from Stanford University	43.000	62366563-26967	133,478	-
Contract 80NSSC20K0602, Consequences of Flows and Fields in the Interior and Exterior of the Sun (COFFIES), Pass-through from Stanford University	43.000	62356558-145590	30,371	-
Contract 80GSFC21C0055, Solaris Phase A Study for CDM Development Support, Pass-through from Southwest Research Institute	43.000	P99053LJ	33,995	-
Contract NNG14FC03C, Transiting Exoplanet Survey Satellite (TESS) Project, Pass-through from Massachusetts Institute of Technology	43.000	5710003549	199,737	-
Contract NNG16PJ27C, Harnessing the Power of the WFIRST, Pass-through from Search for Ext	43.000	SC3214	59,359	
Contract, NNG16PJ28C, WFIRST Infrared Nearby Galaxy Survey, Pass-through from University of Washington	43.000	UWSC9276	4,571	-
Contract NNG16PJ24C, WFIRST SIT CGI, Pass-through from Stanford University	43.000	61362448-122362	24,764	-
Contract NNG16PJ23C, WFIRST Science Investigation Teams and Adjutant Scientists, Pass-through from Johns Hopkins University	43.000	2003301637	16,959	-
Contract NAS5-97271, The New Horizons Project, Pass-through from Johns Hopkins University	43.000	160577	19,803	-
Grant NNA17BF53C, Luminosity Evolution of Outbursting Protostars in Orion, Pass-through from USRA	43.000	SOF 07-0200	9,286	-
Total for ALN 43.000			178,996,239	29,727,505

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2021

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal Assistance Listing Number	Pass-Through Award Number	Total Federal Expenditures	Provided To Subrecipients
National Aeronautics and Space Administration - continued				
Science, 80NSSC20K0435	43.001	N/A	$ 367,568	$ -
Science, 80NSSC17K0114	43.001	N/A	27,761	-
Science, 80NSSC17K0598	43.001	N/A	25,980	8,904
Science, 80NSSC17K0631	43.001	N/A	(2)	-
Science, 80NSSC18K0421	43.001	N/A	62,338	-
Science, 80NSSC18K0556	43.001	N/A	10,128	-
Science, 80NSSC18K0700	43.001	N/A	71,691	-
Science, 80NSSC18K0944	43.001	N/A	114,426	-
Science, 80NSSC18K1051	43.001	N/A	15,658	-
Science, 80NSSC18K1105	43.001	N/A	152,570	-
Science, 80NSSC18K1206	43.001	N/A	171,466	56,865
Science, 80NSSC18K1242	43.001	N/A	120,404	-
Science, 80NSSC19K0112	43.001	N/A	35,625	-
Science, 80NSSC19K0120	43.001	N/A	326,273	-
Science, 80NSSC19K0261	43.001	N/A	125,154	-
Science, 80NSSC19K0443	43.001	N/A	10,639	-
Science, 80NSSC19K0529	43.001	N/A	106,886	-
Science, 80NSSC19K0585	43.001	N/A	122,222	-
Science, 80NSSC19K1017	43.001	N/A	47,240	-
Science, 80NSSC19K1393	43.001	N/A	37,766	-
Science, 80NSSC19K1693	43.001	N/A	14,294	-
Science, 80NSSC20K0194	43.001	N/A	104,061	-
Science, 80NSSC20K0261	43.001	N/A	4,861	-
Science, 80NSSC20K0586	43.001	N/A	479,254	-
Science, 80NSSC20K0760	43.001	N/A	144,712	-
Science, 80NSSC20K0837	43.001	N/A	2,245	-
Science, 80NSSC21K0363	43.001	N/A	7,688	-
Science, 80NSSC21K0472	43.001	N/A	82,685	-
Science, 80NSSC21K0719	43.001	N/A	38,338	-
Science, 80NSSC21K0735	43.001	N/A	20,959	-
Science, 80NSSC21K1025	43.001	N/A	7,441	-
Science, 80NSSC21K1053	43.001	N/A	804	-
Science, NNX13AK58G	43.001	N/A	341	-
Science, NNX15AB26G	43.001	N/A	68,540	-
Science, NNX15AE54G	43.001	N/A	(192)	-
Science, NNX16AC65A	43.001	N/A	5,308,055	-
Science, NNX16AF44G	43.001	N/A	(36)	-
Science, NNX17AB60G	43.001	N/A	54,400	-
Science, NNX17AB64G	43.001	N/A	25,562	22,782
Science, Pass-through from Predictive Science Inc.	43.001	N/A	4,961	-
Science, Pass-through from Johns Hopkins University Applied Physics Laboratory	43.001	146918	34,736	-
Science, Pass-through from New Jersey Institute of Technology	43.001	997433	6,388	-
Science, Pass-through from Jet Propulsion Laboratory	43.001	1539872	76,135	
Science, Pass-through from University of Michigan	43.001	3004701233	74,386	-
Science, Pass-through from West Virginia University Research Corp	43.001	18-908-NSO	13,818	-
Science, Pass-through from West Virginia University Research Corp	43.001	18-908-NSO-2	17,458	-
Science, Pass-through from Ball Aerospace and Technology	43.001	19KMB00102	119,879	-
Science, Pass-through from University of Toledo	43.001	F-2019-49	3,709	-
Science, Pass-through from Smithsonian Astrophysical Observatory	43.001	GO6-17057X	15,563	-
Science, Pass-through from Smithsonian Astrophysical Observatory	43.001	GO7-18096A	11,385	-
Science, Pass-through from Smithsonian Astrophysical Observatory	43.001	GO7-18103X	19,087	-
Science, Pass-through from Smithsonian Astrophysical Observatory	43.001	GO9-20070X	44,542	-
Science, Pass-through from Yale University	43.001	GR102632	21,090	-
Science, Pass-through from Southwest Research Institute	43.001	K99078JRG	8,082	-
Science, Pass-through from Million Concepts LLC	43.001	N1953	1,214	-
Science, Pass-through from Southwest Research Institute	43.001	P99019DS	10,177	-
Science, Pass-through from New Mexico State University	43.001	Q02060	39,205	-
Science, Pass-through from USRA	43.001	SOF 08-0192	1,098	-
Science, Pass-through from Smithsonian Astrophysical Observatory	43.001	SV9-89013	13,978	-
Science, Pass-through from University of Washington	43.001	UWSC10437	21,775	-
Total for ALN 43.001			8,874,471	88,551
Total National Aeronautics and Space Administration			187,870,710	29,816,056
Department of Defense				
Basic and Applied Scientific Research , Pass-through from US Naval Research Laboratory	12.300	N00173-20-1-G008	34,673	-
Basic and Applied Scientific Research , Pass-through from USNO- Navy	12.300	N00189-19-P-Z104	15,904	-
Total Department of Defense			50,577	-

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2021

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal Assistance Listing Number	Pass-Through Award Number	Total Federal Expenditures	Provided To Subrecipients
Department of Energy				
DESI - Energy, LBNL, Pass-through from The Regents of the University of California, LBNL	81.000	7471199	$ 5,212,057	$ -
LSST Commissioning Services, Pass-through from SLAC National Accelerator Laboratory	81.000	SLAC 194609	337,151	-
Contract DE-AC02-05CH11231, Wide-Field Infrared Survey Telescope (WFIRST) Science Investigation Team (SIT) Investigating Supernova Cosmology, Pass-through from Lawrence Berkeley National Laboratory	81.000	7323250	148,800	-
Total Department of Energy			5,698,008	-
Total Research and Development Cluster			335,909,580	38,737,147
Total Expenditures of Federal Awards			$ 335,909,580	$ 38,737,147

See Notes to Schedule of Expenditures of Federal Awards

NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2021

Note 1 - Summary of Significant Accounting Policies

Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the "Schedule") includes the federal award activity of AURA under programs of the federal government for the year ended September 30, 2021 and is presented on the accrual basis of accounting. 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"), wherein certain types of expenditures are not allowable or are limited as to reimbursement. Program income is reported at gross in the Schedule. 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. Because the Schedule presents only a selected portion of the operations of AURA, it is not intended to and does not present the financial position, changes in net assets or cash flows of AURA.

AURA recognized fixed management fee revenue totaling $2,585,470 on National Aeronautics and Space Administration (“NASA”) contracts NAS5-03127, NAS5-26555 and 80GSFC19C0054 during the year ended September 30, 2021. Such amounts are excluded from the expenditures presented in the accompanying Schedule.

For purposes of the Schedule, federal awards include all grants, contracts, and similar agreements entered into directly between AURA and agencies and departments of the Federal Government and all sub-awards made to AURA by non-federal organizations pursuant to federal grants, contracts and similar agreements.

Subrecipients

Certain funds received under federal awards are paid to subrecipient organizations by AURA; these expenditures are presented in the "Provided to Subrecipients" column within the Schedule and are related primarily to research and development awards received from the National Science Foundation ("NSF") and NASA.

Note 2 - Indirect Cost Rate

AURA has not elected to use the 10 percent de minimis indirect cost rate as allowed under the Uniform Guidance.

SCHEDULE OF FINDINGS AND QUESTIONED COSTS

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
SCHEDULE OF FINDINGS AND QUESTIONED COSTS

September 30, 2021

Section A - Summary of Auditor's Results

Financial Statements

1. Type of auditor's report issued on whether the financial statements audited were prepared in accordance with GAAP — Unmodified
2. Internal control over financial reporting
   a. Material weakness(es) identified? — ✓ yes ___ no
   b. Significant deficiency(ies) identified? — ✓ yes ___ none reported
3. Noncompliance material to financial statements noted? — ___ yes ✓ no

Federal Awards

1. Internal control over major programs:
   a. Material weakness(es) identified? — ___ yes ✓ no
   b. Significant deficiency(ies) identified? — ___ yes ✓ none reported
2. Type of auditor's report issued on compliance for major programs — Unmodified
3. Any audit findings disclosed that are required to be reported in accordance with 2CFR 200.516(a) — ___ yes ✓ no
4. Identification of major programs

Name of Federal Program	Assistance Listing Numbers
Research and Development Cluster: National Science Foundation National Aeronautics and Space Administration Department of Defense Department of Energy	All Assistance Listing Present

5. Dollar threshold used to distinguish between Type A and Type B programs — $3,000,000
6. Auditee qualified as a low-risk auditee? — No

Section B - Financial Statement Audit Findings

Finding 2021-001: Material Weakness

Condition:
Account reconciliations and other month-end close procedures were not performed timely. As a result, there were several instances where material adjusting entries were required to various accounts.

Criteria:
Internal controls should be in place so that account reconciliations are prepared and reviewed on a timely basis.

Cause:
Account reconciliations were not prepared and reviewed on a timely basis.

Effect:
Misstatement of the financial statements could occur and not be detected or corrected on a timely basis.

Questioned Costs:
None

Auditor's Recommendation:
Management should ensure that account reconciliations are performed on a timely basis for all accounts.

Views of Responsible Officials:
AURA agrees with the observation and recommendation. Significant improvements were made by the Central Administrative Services ("CAS") team in the accounting and reporting functions during fiscal year 2021, including the implementation of a new enterprise resource planning system Deltek Costpoint. In part due to the labor market impact during the pandemic, AURA was unable to assign consistent resources to the NSF Funded Center account reconciliation processes until late in the fiscal year. As a result, year-end financial reporting, inclusive of STScI accounts, was delayed beyond initially anticipated timelines.

AURA recognizes the important role timely account reconciliations play in a timely and accurate year-end close. CAS has filled, and continues to fill, critical accounting positions and is devoting resources in fiscal year 2022 to ensure an adequate account reconciliation schedule is designed and implemented for all balance sheet accounts.

Finding 2021-002: Significant Deficiency

Condition:
The initial schedule of expenditures of federal awards prepared by management included incorrect amounts of expenditures. The incorrect amounts related to AURA's Space Telescope Science Institute ("STScI") division.

Criteria:
Internal controls should be in place so that the schedule of expenditures of federal awards is reconciled to the federal expenditures in the general ledger and is reviewed on a timely basis.

Cause:
In preparing the 2021 schedule of expenditures of federal awards, the STScI division expenditures included billings based on estimates rather than actual amounts, and a management fee was incorrectly included.

Effect:
The initial schedule of expenditures of federal awards prepared by management was incorrect.

Questioned Costs:
None

Auditor's Recommendation:
We recommend a reconciliation of the schedule of expenditures of federal awards to the related general ledger accounts be performed on a semi-annual basis and any variances be investigated.

Views of Responsible Officials:
AURA agrees with the observation and recommendation. STScI has enhanced the reconciliation of financial statement revenue to Schedule of Expenditures of Federal Awards ("SEFA") expenditures to ensure that discretionary fees are completely and accurately included in the SEFA and that management fees are properly excluded from the SEFA in subsequent years. STScI notes that the reconciliation issues identified are limited to contracts which provide STScI the ability to request cash based on fixed amounts specified under the contracts and, as such, is an isolated matter.

The adjustments required to the SEFA stem from reevaluation of the amounts included by STScI for discretionary and management fees provided under certain NASA contracts. Financial statement adjustments for the discretionary fees, resulting from the adoption of the revenue recognition standards in fiscal year 2020, were not fully captured in the SEFA. In addition, STScI management reassessed its reporting of management fee income and concluded that such fees should not be included in the SEFA. These changes to the SEFA were not presented to the auditors until the final stages of the AURA financial statement preparation.

Section C - Major Federal Award Program Findings and Questioned Costs

No matters were reported.

CohnReznick

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Association of Universities
For Research in Astronomy
Suite 1475
1331 Pennsylvania Avenue NW
Washington, DC 20004

June 24, 2022

Mr. Daniel O'Shea, CPA Partner
CohnReznick, LLP Bethesda, Maryland

Dear Mr. O'Shea:

We have prepared the accompanying summary schedule of prior audit findings (SSPAF) as required by standards applicable to financial audits contained in Government Auditing Standards and by the audit requirements of Title 2 U.S. Code of Federal Regulation Part 200, Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (Uniform Guidance). We are reporting the status of audit findings included in the prior audit's schedule of findings and questioned costs.

Sincerely,

Barbara Lam (Jun 24, 2022 12:18 EDT)

Barbara Lam, Chief Financial Officer/vice President for Operations

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY
SUMMARY SCHEDULE OF PRIOR AUDIT FINDINGS
YEAR ENDED SEPEMBER 30, 2021

FINANCIAL STATEMENT AUDIT FINDINGS

Finding Reference: 2020-001

Condition: There was a material weakness stating accounts receivable and deferred revenue included variances between the trial balance and AURA's supporting schedules.

Recommendation: The auditor recommended a detailed reconciliation and review be performed on a timely basis.

Current Status: The recommendation was adopted during fiscal year 2021. No similar findings were noted in the 2021 audit.

Association of Universities
For Research in Astronomy
Suite 1475
1331 Pennsylvania Avenue NW
Washington, DC 20004

National Science Foundation

Association of Universities for Research in Astronomy, Inc. respectively submits the following corrective action plan for the year ended September 30, 2021.

Name and address of independent public accounting firm:

Mr. Daniel O'Shea, CPA – Partner
CohnReznick, LLP
7501 Wisconsin Avenue, Suite 400E
Bethesda, MD 20814-6583

Audit Period: September 30, 2021

The findings from the schedule of findings and questioned costs ("schedule") from the September 30, 2021 audited financial statements are discussed below. The findings are numbered consistently with the numbers assigned in the schedule.

If there are questions regarding the plan, I can be reached at blam@aura-astronomy.org or (202) 483-2101.

Sincerely,

Barbara Lam (Jun 24, 2022 09:22 EDT)

Barbara Lam, Chief Financial Officer/Vice President for Operations

FINANCIAL STATEMENT FINDING

Finding Reference: 2021-001: Material Weakness

Responsible official: Chief Financial Officer

Recommendation:

Management should ensure that account reconciliations are performed on a timely basis for all accounts.

Views of responsible officials and planned corrective actions:

AURA agrees with the observation and recommendation. The Central Administrative Services ("CAS") Accounting team devoted significant effort and resources in fiscal year 2021 to implementation of the Deltek Costpoint System, development of the underlying accounts receivable subledger for all NSF Funded Centers, and supporting the accounting systems audit conducted on behalf of the NSF, simultaneously with the year-end close and financial statement audit. Significant improvements were made by the CAS team in the accounting and reporting functions of the organization, but as a result of the competing demands, account reconciliations for the NSF Funded Center accounts and year-end financial reporting, inclusive of STScI accounts, were delayed beyond initially anticipated timelines.

AURA recognizes the important role timely account reconciliations play in a timely and accurate year-end close and is devoting resources in fiscal year 2022 to ensure an adequate account reconciliation schedule is designed and implemented for all balance sheet accounts.

Finding Reference: 2021-002: Significant Deficiency

Responsible official: Chief Financial Officer

Recommendation:

We recommend a reconciliation of the schedule of expenditures of federal awards to the related general ledger accounts be performed on a semi-annual basis and any variances be investigated.

Views of responsible officials and planned corrective actions:

AURA agrees with the observation and recommendation. STScI has enhanced the reconciliation of financial statement revenue to Schedule of Expenditures of Federal Awards ("SEFA") expenditures to ensure that discretionary fees are completely and accurately included in the SEFA and that management fees are properly excluded from the SEFA in subsequent years. STScI notes that the reconciliation issues identified are limited to contracts which provide STScI the ability to request cash based on fixed amounts specified under the contracts and, as such, is an isolated matter.

The adjustments required to the SEFA stem from reevaluation of the amounts included by STScI for discretionary and management fees provided under certain NASA contracts. Financial statement adjustments for the discretionary fees, resulting from the adoption of the revenue recognition standards in fiscal year 2020, were not fully captured in the SEFA. In addition, STScI management reassessed its reporting of management fee income and concluded that such fees should not be included in the SEFA. These changes to the SEFA were not presented to the auditors until the final stages of the AURA financial statement preparation.