ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION

Years Ended September 30, 2020 and 2019

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, 2020 and 2019, 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, 2020 and 2019, 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 May 24, 2021, 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
May 24, 2021

FINANCIAL STATEMENTS

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF FINANCIAL POSITION
September 30, 2020 and 2019
(Amounts in thousands)

	2020	2019
ASSETS		
Cash and cash equivalents (note 3)	$ 29,858	$ 15,924
Assets held for others (note 4)	28,791	28,039
Investments (notes 6 and 7)	17,679	18,118
Accounts receivable	11,653	5,405
Awards/contracts receivable	9,440	7,585
Inventories and other assets	4,516	3,101
Property and equipment, net (note 8)	3,454	3,093
Total assets	$ 105,391	$ 81,265
LIABILITIES AND NET ASSETS		
Liabilities:		
Payables and accrued expenses	$ 25,807	$ 14,658
Accrued vacation and postemployment benefits	23,186	19,109
Deferred award/contract revenues	23,033	5,020
Assets held for others (note 4)	28,791	28,039
Accrued postretirement benefit obligation (note 9b)	10,043	18,843
Total liabilities	110,860	85,669
Net assets (deficit) (note 10):		
Without donor restrictions	(5,522)	(4,457)
With donor restrictions	53	53
Total net deficit	(5,469)	(4,404)
Total liabilities and net assets	$ 105,391	$ 81,265

The accompanying notes are integral part of the financial statements.

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF ACTIVITIES
Years Ended September 30, 2020 and 2019
(Amounts in thousands)

REVENUES, GAINS AND OTHER SUPPORT	**2020**	**2019**
Changes in net assets without donor restrictions:		
National Science Foundation - Cooperative Agreements:		
Research activity (note 3)	$ 148,008	$ 167,406
National Aeronautics and Space Administration - prime contracts:		
Research activity (note 3)	183,097	173,334
Other awards and contracts		
Other federal awards and contracts	16,072	14,175
Other nonfederal awards and contracts	6,491	8,905
Loss on sale of assets	-	(6)
Net investment income (note 6)	613	635
Net foreign currency translation gain (loss) (note 13)	86	(551)
Other income	2,973	5,642
Total revenues, gains, and other support without donor restrictions	357,340	369,540
Expenses (note 11):		
Program expenses - Research activity	331,901	341,139
Management and general	29,089	27,272
Total expenses	360,990	368,411
Change in net assets without donor restrictions before other changes	(3,650)	1,129
Other changes (note 9b):		
Net periodic postretirement benefit (cost) credit other than service cost	(625)	147
Total postretirement changes other than net periodic benefit cost	9,617	(10,179)
Total other changes	8,992	(10,032)
Change in net assets without donor restrictions	5,342	(8,903)
Change in net assets	5,342	(8,903)
Net (deficit) assets at beginning of year	(4,404)	4,499
Cumulative effect of accounting change (note 2n)	(6,407)	-
Net deficit at end of year	$ (5,469)	$ (4,404)

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
STATEMENTS OF CASH FLOWS
Years Ended September 30, 2020 and 2019
(Amounts in thousands)

	2020	**2019**
Cash flows from operating activities:		
Change in net assets	$ 5,342	$ (8,903)
Adjustments to reconcile the change in net assets to		
net cash provided by operating activities:		
Depreciation and amortization	844	727
Realized and unrealized gains on investments, net	(165)	(68)
Loss on disposal of assets	-	6
Net foreign currency translation (gain) loss	(86)	551
Increase (decrease) in cash resulting from changes in:		
Accounts receivable	(6,248)	(265)
Awards/contracts receivable	(3,830)	179
Inventories and other assets	(1,415)	(493)
Payables and accrued expenses	11,235	(443)
Accrued vacation and post employment benefits	4,077	1,031
Deferred award/contract revenues	13,581	(1,198)
Accrued postretirement benefit obligation	(8,800)	9,816
Net cash provided by operating activities	14,535	940
Cash flows from investing activities:		
Purchases of property and equipment	(1,205)	(227)
Proceeds from sales of investments	21,946	30,215
Purchases of investments	(21,342)	(30,140)
Net cash used in investing activities	(601)	(152)
Net increase in cash and cash equivalents	13,934	788
Cash and cash equivalents at beginning of year	15,924	15,136
Cash and cash equivalents at end of year	$ 29,858	$ 15,924

The accompanying notes are 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, 2020, 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
The University of Texas at San Antonio
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 Toledo
University of Virginia
University of Washington
University of Wisconsin
Vanderbilt University
Yale University

International affiliates as of September 30, 2020, 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	September 30, 2022
STScI	NASA Contract NAS5-26555	June 30, 2021
STScI	NASA Contract NAS5-03127	June 30, 2021
STScI	NASA Contract 80GSFC19C0054	September 30, 2021

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, 2020 and 2019, 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, 2020 and 2019.

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, 2020 and 2019, was $2,643 and $3,085, 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, 2020 and 2019, was $4,125 and $3,848, 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 under ASU 2018-08 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)

Based on the adoption of ASU 2018-08, the percentage of awards considered exchange transactions for the years ended September 30, 2020 and 2019, respectively were as follows:

	2020	2019
NSF – cooperative agreements	0%	100%
NASA – prime contracts	100%	100%
Other federal awards and contracts	35%	100%
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, 2020 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 housing meals, transportation and other services provided to visiting scientists and other mountain tenants, 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, 2020 and 2019, and, accordingly, there is no liability for unrecognized tax benefits. Tax years prior to 2017 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 2018-08, Not-for-Profit Entities (Topic 958), Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made

AURA adopted Accounting Standards Update (ASU) 2018-08, *Not-for-Profit Entities (Topic 958), Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made.* ASU 2018-08 clarifies and improves current guidance by providing criteria for determining whether the resource provider is receiving commensurate value in return for the resources transferred which, depending on the outcome, determines whether the organization follows contribution guidance or exchange transaction guidance in the revenue recognition and other applicable standards. ASU 2018-08 also provides a more robust framework for determining whether a contribution is conditional or unconditional, and for distinguishing a donor-imposed condition from a donor-imposed restriction. As required by ASU 2018-08, AURA applied the requirements on a modified prospective basis to agreements that either are not completed as of October 1, 2019 or entered into after October 1, 2019. Upon adoption of ASU 2018-08, AURA determined that the cooperative agreements with the NSF as well as certain other awards and contracts previously treated as exchange transactions meet the new definition of conditional contributions. The adoption of this ASU did not materially impact the financial statements.

(2) Summary of Significant Accounting Policies (Continued)

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

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606). ASU 2014-09 requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration that the entity expects to be entitled to in exchange for those goods or services. On October 1, 2019, AURA adopted ASU 2014-09, using the modified retrospective approach with a cumulative effect adjustment to the opening balance of the net assets as of the initial application and adoption. AURA applied the five-step revenue model stipulated by ASU 2014-09 to all of its significant revenue streams in order to determine when revenue is earned and recognized. The five-step model requires AURA to i.) identify contracts with customers, ii.) identify performance obligations related to those contracts, iii.) determine the transaction price, iv.) allocate that transaction price to each performance obligation, and v.) recognize revenue when or as AURA satisfies a performance obligation. Comparative period information has not been restated and continues to be reported under the accounting standards in effect for those periods. Adoption of this guidance had an immaterial impact on AURA's Statements of Activities.

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 balance of net assets without donor restrictions, decreasing beginning net assets without donor restrictions by $6,407, with a corresponding increase in deferred award/contract revenue of $4,432 and decrease in awards/contracts receivable of $1,975.

In accordance with the new guidance, revenues associated with the discretionary fund component of the NASA prime contracts are recognized as allowable costs are incurred. Previously, such revenues were recognized based on annual amounts awarded under the contracts. AURA does not expect this guidance to have a material impact on research activity revenue under NASA prime contracts on an ongoing basis. As of September 30, 2020, the unrecognized balance of deferred award/contract revenue includes $2,377 associated with NASA prime contract discretionary funds. There are no amounts included in the awards/contracts receivable balance as of September 30, 2020.

(2) Summary of Significant Accounting Policies (Continued)

(n) New Accounting Pronouncements (continued)

Adoption of ASU 2017-07, Compensation – Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost

In March 2017, the Financial Accounting Standards Board ("FASB") issued ASU 2017-07, *Compensation – Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.* ASU 2017-07 requires the service cost component of net periodic benefit cost for pension and other postretirement benefits be presented as a component part of employee benefit expense. The other components of net periodic benefit cost, such as interest, expected return on plan assets, and amortization of other actuarially determined amounts, are required to be presented as a non-operating change in net assets without donor restrictions. These changes have been applied retrospectively in the 2019 statement of activities by reclassifying $147 net benefit from non-service related components of net periodic postretirement benefit credit from research activities ($148 benefit) and management and general ($1 expense) to other changes in net assets without donor restrictions.

Adoption of ASU 2018-15, Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract

In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.* which provided an update to the previously issued ASU on this topic. The amendments in this ASU align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The amendments also require the entity to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement, which includes reasonably certain renewals. AURA has applied the amendments in this ASU prospectively to all implementation costs incurred after October 1, 2019.

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

In June 2020, the FASB issued ASU 2020-05, which provided an optional one-year deferral of the effective date of *Revenue from Contracts with Customers (Topic 606) and Leases (Topic 842).* AURA adopted Topic 606 and has deferred adoption of Topic 842 under ASU 2020-05. Topic 842 also 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.

(Amounts in thousands)

(2) Summary of Significant Accounting Policies (Continued)

(o) 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 $30,617 and $17,502, as of September 30, 2020 and 2019, respectively. AURA also maintains balances in foreign banks which are used to fund current operations. Foreign deposits, which are uninsured, amounted to $1,343 and $1,994 as of September 30, 2020 and 2019, respectively.

Awards/contracts receivable as of September 30, 2020 and 2019, are primarily due from the NSF and NASA. Revenues without donor restrictions for research under the primary contracts with these entities totaled approximately $331,105 and $340,740 for the years ended September 30, 2020 and 2019, respectively. Other contract funds also include revenues without donor restrictions from the NSF and NASA.

(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:

	2020	2019
Cash and cash equivalents	$ 888	$ 867
Investments (note 7)	11,827	11,096
Property and Equipment	16,076	16,076
Total assets held for others	$ 28,791	$ 28,039

(Amounts in thousands)

(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	2020	2019
Cash and cash equivalents	$ 29,858	$ 15,924
Assets held for others (cash and cash equivalents and investments)	12,715	11,963
Investments	17,679	18,118
Accounts receivable	11,653	5,405
Awards/contracts receivable	9,440	7,585
	81,345	58,995
Less:		
Assets held for others (note 4)		
Cash and cash equivalents	(888)	(867)
Investments	(11,827)	(11,096)
Funds restricted by grantor with purpose restrictions	(53)	(53)
Board designated amounts	-	(5,590)
	(12,768)	(17,606)
Financial assets available to meet cash needs for general expenditures within one year	$ 68,577	$ 41,389

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.

(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.

(Amounts in thousands)

(6) Investments (Continued)

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

	2020	2019
Interest	$ 448	$ 567
Net realized and unrealized gains	165	68
Total investment income	$ 613	$ 635

(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, 2020 and 2019. 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:

	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

(Amounts in thousands)

(7) Fair Value Measurements (Continued)

	2019		
	Level 1	**Level 2**	**Total Fair Value**
Fixed income:			
Money market	$ 208	$ -	$ 208
Certificates of deposit	-	4,164	4,164
U.S. treasury bills	-	2,533	1,785
Fixed income - mutual funds	127	-	127
Government bonds	-	1,763	2,511
Corporate and foreign bonds	-	8,356	8,356
Total fixed income	335	16,816	17,151
Equity and other investments:			
U.S. equity	687	-	687
Non-US equity	280	-	280
Total equity and other investments	967	-	967
Total investments	$ 1,302	$ 16,816	$ 18,118

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

	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

(Amounts in thousands)

(7) Fair Value Measurements (Continued)

	2019		
	Level 1	**Level 2**	**Total Fair Value**
Fixed income:			
Corporate and foreign bonds	$ -	$ 5,145	$ 5,145
Government bonds	-	503	503
Fixed income - mutual funds	395	-	395
Foreign money market	1,332	-	1,332
Foreign government securities	-	933	933
Total fixed income	1,727	6,581	8,308
Equity and other investments:			
U.S. equity	1,576	-	1,576
Non-U.S. equity	162	-	162
Stable value	-	356	356
Target dates - mutual funds	693	-	693
Real estate	1	-	1
Total equity and other investments	2,432	356	2,788
Total investments held for others	$ 4,159	$ 6,937	$ 11,096

(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:

	2020	2019
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	741	739
Leasehold improvements	3,710	2,523
	10,925	9,736
Less accumulated depreciation and amortization	(7,471)	(6,643)
Total	$ 3,454	$ 3,093

(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:

	2020	2019
Land and improvements	$ 7,036	$ 7,036
Buildings and improvements	41,863	41,329
Telescopes	263,390	262,654
Instruments	149,937	150,636
Equipment and vehicles	49,364	48,289
Other-inventory	847	901
Construction work-in-process:		
Building construction and instrument fabrication	849,291	772,394
	$ 1,361,728	$ 1,283,239
Less: accumulated depreciation	(240,862)	(229,340)
Total	$ 1,120,866	$ 1,053,899

Pending further guidance from the NSF, property acquired under the NOIRLab indirect pools is not reflected in the above schedule or in the accompanying statements of financial position. As of September 30, 2020, total property amounted to $184 and is included as a component of research activities expense in the accompanying statement of activities for the year then ended.

(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, 2020 and 2019, AURA contributed $13,134 and $12,707, 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, 2020, and 2019, the balance in the 457(b) deferred compensation plan was $3,858 and $3,182, 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 2021.

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

	2020	2019
Net actuarial (gain) loss	$ (8,323)	$ 10,504
Amortization of net loss	(1,376)	(536)
Amortization of prior service credit	82	211
Total	$ (9,617)	$ 10,179

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:

	2020	2019
Actuarial loss	$ 10,838	$ 20,536
Prior service credit	-	(82)
Total (note 10)	$ 10,838	$ 20,454

There are no amounts expected to be recognized as components of postretirement benefit cost during the year ended September 30, 2021 as all actuarial losses are outside the 10% corridor threshold used for amortization of actuarial gains and losses.

(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:

	2020	2019
Change in projected benefit obligation:		
Projected benefit obligation, beginning of year	$ 50,223	$ 39,398
Service cost	774	630
Interest cost	1,492	1,654
Actuarial gain (loss)	(9,123)	9,416
Benefits paid	(789)	(1,012)
Participant contributions	117	101
Medicare Part D reimbursement	50	36
Projected benefit obligation, end of year	42,744	50,223
Change in plan assets:		
Fair value of plan assets, beginning of year	$ 31,380	$ 30,371
Actual return on plan assets	1,360	1,038
Employer contributions	622	875
Participant contributions	117	101
Benefits paid	(789)	(1,012)
Medicare Part D reimbursement	50	36
Plan expenses	(39)	(29)
Fair value of plan assets, end of year	32,701	31,380
Funded Status - in liabilities	$ (10,043)	$ (18,843)

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

	2020	2019
Discount rate	2.50%	3.00%
Rate of return	7.00%	7.00%
Health care cost trend rate – initial	5.40%	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	7.51years	8.4 years
Measurement date	9/30	9/30

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

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

During 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 $8,323 which is included as a component of total postretirement changes other than net periodic benefit cost for the year ended September 30, 2020.

During 2019, AURA updated the medical trend assumption model to provide more rigor and transparency to the medical trend assumption which changed the initial health care cost trend rates and the year the ultimate health care cost trend rate is reached. The change in the trend assumption resulted in an actuarial loss of $3,615 during 2019. The trend assumption change, combined with the decrease in the discount rate of 125 basis points and other demographic and claims experience, resulted in a total actuarial loss of $10,504 which is included as a component of total postretirement changes other than net periodic benefit cost for the year ended September 30, 2019.

The health care cost trend rate assumption has a significant effect on the amounts reported. The effect of a 1% increase in the assumed healthcare cost trend rate would have resulted in the following effects:

	2020	2019
Postretirement benefit obligation	$ 8,328	$ 10,071
Service and interest cost	522	395

The effect of a 1% decrease in the assumed healthcare cost trend rate would have resulted in the following effects:

	2020	2019
Postretirement benefit obligation	$ 6,638	$ 7,966
Service and interest cost	405	314

(Amounts in thousands)

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

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

	2020	2019
Operating - Service Cost	$ 774	$ 630
Other changes:		
Interest Cost	1,492	1,654
Expected return on plan assets	(2,161)	(2,126)
Amortization of prior service cost	(82)	(211)
Amortization of actuarial loss	1,376	536
Total other changes	625	(147)
Net periodic postretirement benefit cost	$ 1,399	$ 483

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

Year Ending September 30:	Amount
2021	$ 900
2022	967
2023	970
2024	1,037
2025	1,157
2026 to 2030	7,469

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 - 10%
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:

	2020	2019
Cash and cash equivalents	2.18%	3.00%
Fixed income	29.16%	26.12%
Equity	68.66%	69.99%
Alternative investments - mutual funds	0.00%	0.89%
Total	100%	100%

(9) Retirement Benefits (Continued)

(b) Postretirement Benefits Other than Pensions (continued)

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, 2020, reflects an estimated subsidy of $450 (figure not in thousands) per eligible participant.

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):

	2020	2019
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Quoted Prices in Active Markets for Identical Assets (Level 1)
Fixed income:		
Money market	$ 710	$ 943
Fixed income - mutual funds (MF)	9,550	8,211
Total fixed income	10,260	9,154
Equity and other investments:		
U.S. large equity - MF/ETF	4,086	4,175
U.S. small/mid equity - MF/ETF	2,176	4,182
Non-U.S. equity - MF/ETF	3,099	4,490
Non-U.S. equity (emerging) - MF/ETF	1,385	917
Common stock	10,865	7,626
Real estate - MF	830	558
Other equity - ETF	-	278
Total equity and other investments	22,441	22,226
Total plan assets	$ 32,701	$ 31,380

(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 and Board-designated amounts for the following purposes as of September 30:

	2020	2019
Accumulated postretirement benefit obligation not recognized as components of net periodic benefit costs (note 2(m) and 9(b))	$ (10,420)	$ (20,454)
Unbilled accrued vacation	(2,116)	(2,491)
Total net deficit from timing differences under federal awards	(12,536)	(22,945)
Board designated funds - research	-	5,590
Undesignated	7,014	12,898
Total net deficit without donor restrictions	$ (5,522)	$ (4,457)

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 creates an accumulated net deficit within the net assets without donor restrictions balance (see note 12(a)). The deficits in net assets without donor restrictions of $5,522 and $4,457 at September 30, 2020 and 2019, respectively, do not impact AURA's ability to fund operations or accomplish programmatic objectives but rather reflect the required recognition of the long-term actuarially determined liabilities as measured at the statement of financial position date and the unbilled accrued vacation.

Based on the adoption of ASU 2014-09 on October 1, 2019, amounts previously presented as board designated funds were reclassified to deferred revenue.

(b) With donor restrictions

Net assets with donor restrictions available for Kitt Peak Visitor Center and De Mastus Memorial Fund total $53 as of September 30, 2020 and 2019, respectively.

There were no released grantor restrictions as of September 30, 2020 and 2019.

AURA had no net assets that must be maintained in perpetuity as of September 30, 2020 and 2019.

(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. Effective October 1, 2019, AURA restructured its research activities, creating the NOIRLab from activities that were previously reported as part of the NOAO, Gemini and LSSTPO programs. For the year ended September 30, 2019, $34,830 of the NOAO expenses, $29,461 of the Gemini expenses and $575 of the LSSTPO expenses were attributable to the research activities that are classified as NOIRLab for the year ended September 30, 2020.

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

	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)

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

	2019							
	Research Activity					Total Research	Management	
	NOAO	NSO	Gemini	LSSTPO	STScI	Activity	and General	Total
Salaries, wages, and benefits	$ 20,840	$ 23,241	$ 17,903	$ 12,402	$ 91,007	$ 165,393	$ 16,069	$ 181,462
Supplies and materials	2,815	2,768	2,046	2,628	997	11,254	987	12,241
Travel	937	1,000	1,435	1,618	1,731	6,721	851	7,572
Conferences and meetings	146	131	265	357	1,215	2,114	715	2,829
Office and occupancy	1,891	1,998	1,072	847	599	6,407	4,731	11,138
Insurance	438	65	38	14	13	568	166	734
Postage and delivery	135	96	104	1,667	7	2,009	51	2,060
Professional services	4,629	7,919	5,146	44,253	37,592	99,539	2,601	102,140
Lease equipment and vehicles	142	166	83	36	5	432	43	475
Repair and maintenance	408	359	808	461	2,910	4,946	356	5,302
Equipment expensed to government	416	2,649	561	3,235	3,450	10,311	120	10,431
Grant programs and awards	1,933	83	-	60	29,224	31,300	-	31,300
Depreciation and amortization	100	-	-	-	45	145	582	727
Total expenses	$ 34,830	$ 40,475	$ 29,461	$ 67,578	$ 168,795	$ 341,139	$ 27,272	$ 368,411

(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, 2020 or September 30, 2019.

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

	2020	2019
Accumulated postretirement benefit obligation not recognized as components of net periodic benefit costs (note 2 (m) and 9 (b))	$ 10,420	$ 20,454
Unbilled accrued vacation	2,116	2,491
Total unfunded liabilities	$ 12,536	$ 22,945

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:

	2020	2019
NOAO and NSO employees' unrecorded postretirement benefit obligations	$ 7,989	$ 18,332
NOAO employees' unrecorded postemployment benefit obligations (finiquitos)	2,643	3,085
Total unrecorded obligations belonging to NSF	$ 10,632	$ 21,417

(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
2021	$ 520
2022	502
2023	494
2024	483
2025	484
2026 to 2030	2,230

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 $60,671 and $63,488 as of September 30, 2020 and 2019, 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 ended September 30, 2020 and 2019, totaled $3,936 and $4,006 respectively.

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

Year Ending September 30:	Amount
2021	$ 3,452
2022	3,274
2023	2,373
2024	1,657
2025	278
Thereafter	259
Total	$ 11,293

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

(13) Foreign Currency Translation

The change in the accumulated balance for foreign currency translation adjustments is reported in net assets without donor restrictions in the accompanying Statements of Activities for the years ended September 30 and is summarized as follows:

Accumulated foreign currency translation losses:	**2020**	**2019**
Beginning balance	$ (1,406)	$ (855)
Net gains (losses) on foreign currency translation	86	(551)
Ending balance	$ (1,320)	$ (1,406)

(Amounts in thousands)

(14) 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

	2020	2019
AURA monetary membership dues	$ 1,953	$ 1,853
AURA services provided under shared services agreement	1,747	1,590
AURA receivable due from WIYN	469	7

SOAR

	2020	2019
AURA nonmonetary membership dues	$ -	$ 1,867
AURA monetary membership dues	1,581	-
AURA services provided under shared services agreement	1,494	2,804
AURA (payable to) receivable from SOAR	(388)	7

(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)

(14) 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:

	2020	2019
AURA research contributions	$ 25	$ 50
AURA services provided under shared services agreement	379	522
Amounts due from LSST, Inc.	248	500

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 amount awarded as of September 30, 2020 and 2019, were $81 and $29, respectively.

(15) 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.

(16) Subsequent Events

AURA has evaluated subsequent events from the statement of financial position date through May 24, 2021, 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, 2020 and 2019
(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:

	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	464,882	849,291
	119,177	412,243	364,415	465,893	1,361,728
Less: accumulated depreciation	(78,386)	(38,664)	(123,313)	(499)	(240,862)
Total	$ 40,791	$ 373,579	$ 241,102	$ 465,394	$ 1,120,866

	2019				
	NOAO	NSO	Gemini	LSSTPO	Total
Property:					
Land and improvements	$ 4,204	$ 2,805	$ 27	$ -	$ 7,036
Buildings and improvements	14,016	11,814	15,251	248	41,329
Telescopes	31,839	14,787	216,028	-	262,654
Instruments	34,953	17,405	98,278	-	150,636
Equipment and vehicles	30,110	8,462	8,900	817	48,289
Other - Inventory	-	-	901	-	901
Construction work-in-progress: Building construction and instrument fabrication	3,904	333,480	18,508	416,502	772,394
	119,026	388,753	357,893	417,567	1,283,239
Less: accumulated depreciation	(76,353)	(38,398)	(114,202)	(387)	(229,340)
Total	$ 42,673	$ 350,355	$ 243,691	$ 417,180	$ 1,053,899

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
DISCLOSURES OF PROPERTY OWNED BY THE UNITED STATES OF AMERICA – NASA
(Unaudited)
September 30, 2020 and 2019
(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, 2020 and 2019, were $42,964 and $38,730, respectively.

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

SINGLE AUDIT REPORTS

Year Ended September 30, 2020

CohnReznick
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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, 2020, 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 May 24, 2021.

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.

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

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that have not been identified. We did identify a certain deficiency in internal control, described in the accompanying schedule of findings and questioned costs as item 2020-001 that we consider to be a material weakness.

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 finding identified in our audit is described in the accompanying schedule of findings and questioned costs. AURA's response was 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
May 24, 2021

Independent Auditor's Report on Compliance for Each Major Program and 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, 2020. 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* 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, 2020.

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, 2020, and have issued our report thereon dated May 24, 2021, 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
May 24, 2021

AURA SECTION

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2020

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal CFDA 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	$ 21,870,554	$ -
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1557260	47.049	N/A	(91,348)	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1559596	47.049	N/A	1,956,887	1,953,223
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1839157	47.049	N/A	232,700	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-2013059	47.049	N/A	3,099,868	3,096,176
Mathematical and Physical Sciences, AST-1637359	47.049	N/A	45,220	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1853386	47.049	N/A	2,236,074	-
Mathematical and Physical Sciences, AST-2021148	47.049	N/A	20,134	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1400450	47.049	N/A	14,453,688	117,311
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1011851	47.049	N/A	23,266,681	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-0946422 - CSA AST-1023439	47.049	N/A	878,218	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1539773	47.049	N/A	30,733,955	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092 - CSA AST-1839225	47.049	N/A	3,726,957	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1258333 - CSA AST-1202910	47.049	N/A	47,815,104	-
Mathematical and Physical Sciences, Cooperative Agreement No. AST-1546092- CSA AST-1836783	47.049	N/A	1,216,108	246,989
Mathematical and Physical Sciences, AST 1816196	47.049	N/A	2,570	-
Mathematical and Physical Sciences, Pass-through from New Jersey Institute of Technology	47.049	996828	2,844	-
Mathematical and Physical Sciences, Pass-through from New Jersey Institute of Technology	47.049	997199	50,411	-
Mathematical and Physical Sciences, Pass-through from New Mexico State University	47.049	Q02122	89,244	-
Mathematical and Physical Sciences, Pass-through from American Museum of Natural History	47.049	A90-2020-02	6,163	-
Total for CFDA 47.049			151,612,032	5,413,699
Geosciences, Pass-through from University of California Berkeley	47.050	10093	23,470	-
Total for CFDA 47.050			23,470	-
Education and Human Resources, Pass-through from University of Alaska	47.076	UAF 18-0041	12,664	-
Total for CFDA 47.076			12,664	-
Total National Science Foundation			151,648,166	5,413,699
National Aeronautics and Space Administration				
Science, NNH17IA04P	43.000	N/A	227,104	-
Contract NAS5-03127, Support for Space Telescope Science Institute	43.000	N/A	91,700,221	-
Contract NAS5-03127, Grant Program	43.000	N/A	994,033	931,591
Contract NAS5-26555, Support for Space Telescope Science Institute	43.000	N/A	39,285,818	-
Contract NAS5-26555, Grant Program	43.000	N/A	37,972,951	31,672,597
Contract 80GSFC19C0054, Wide-Field Infrared Survey Telescope	43.000	N/A	11,727,971	-
Contract NNA09DA83C, Kepler Data Management Center (Phase E)	43.000	N/A	537,627	-
Extragalactic Potential Observations (EXPO), Pass-through from University of California Santa Cruz	43.000	A16-0381-S001-P0600214	5,917	-
SOFIA EXES Program 06_0093 Measuring Water in the AGB Circumstellar Outflow, Pass-through from Universities Space Research Association	43.000	SOF-06-0093-Hinkle	(6)	-
The Solar Dynamics Observatory (SDO) Helioseismic and Magnetic Imager Investigation - Second Extended Mission, Pass-through from Stanford University	43.000	62366563-26967	59,618	-
Contract NNG14FC03C, Transiting Exoplanet Survey Satellite (TESS) Project, Pass-through from Massachusetts Institute of Technology	43.000	5710003549	302,066	-
Contract NNG16PJ27C, Harnessing the Power of the WFIRST, Pass-through from Search for Ext	43.000	SC3214	39,844	-
Contract, NNG16PJ28C, WFIRST Infrared Nearby Galaxy Survey, Pass-through from University of Washington	43.000	UWSC9276	23,076	-
Contract NNG16PJ24C, WFIRST SIT CGI, Pass-through from Stanford University	43.000	61362448-122362	15,171	-
Contract NNG16PJ23C, WFIRST Science Investigation Teams and Adjutant Scientists, Pass-through from Johns Hopkins University	43.000	2003301637	24,150	-
Grant NNA17BF53C, Luminosity Evolution of Outbursting Protostars in Orion, Pass-through from USRA	43.000	SOF 07-0200	4,173	-
Total for CFDA 43.000			182,919,734	32,604,188

National Aeronautics and Space Administration - continued

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2020

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal CFDA Number	Pass-Through Award Number	Total Federal Expenditures	Provided To Subrecipients
National Aeronautics and Space Administration - continued				
Science, NNX17AB64G	43.001	N/A	54,937	54,937
Science, NNX17AB64G	43.001	N/A	(35,186)	-
Science, 80NSSC17K0598	43.001	N/A	197,196	84,571
Science, 80NSSC18K1206	43.001	N/A	139,543	64,285
Science, 80NSSC17K0114	43.001	N/A	45,532	-
Science, 80NSSC18K1242	43.001	N/A	5,241	-
Science, 80NSSC19K0261	43.001	N/A	117,651	-
Science, 80NSSC19K0364	43.001	N/A	28,282	-
Science, 80NSSC20K0194	43.001	N/A	63,843	-
Science, 80NSSC18K0700	43.001	N/A	101,402	-
Science, NNX13AK58G	43.001	N/A	32,388	-
Science, NNX14AN06G	43.001	N/A	(46)	-
Science, NNX15AB26G	43.001	N/A	44,952	-
Science, NNX15AC86G	43.001	N/A	204,357	-
Science, NNX15AE54G	43.001	N/A	6,244	-
Science, NNX16AF44G	43.001	N/A	3,208	-
Science, NNX16AT56	43.001	N/A	116,095	-
Science, NNX17AB60G	43.001	N/A	130,502	-
Science, NNX17AI64G	43.001	N/A	(13)	-
Science, 80NSSC17K0631	43.001	N/A	12,694	-
Science, 80NSSC18K0421	43.001	N/A	131,589	-
Science, 80NSSC18K0944	43.001	N/A	69,226	-
Science, 80NSSC18K1051	43.001	N/A	19,441	-
Science, 80NSSC18K1105	43.001	N/A	154,623	-
Science, 80NSSC18K0581	43.001	N/A	1,286	-
Science, 80NSSC19K0112	43.001	N/A	32,296	-
Science, 80NSSC19K0158	43.001	N/A	60,670	-
Science, 80NSSC19K0120	43.001	N/A	617,181	-
Science, 80NSSC19K0443	43.001	N/A	40,842	-
Science, 80NSSC19K0529	43.001	N/A	21,961	-
Science, 80NSSC19K0585	43.001	N/A	157,110	-
Science, 80NSSC19K1017	43.001	N/A	40,367	-
Science, 80NSSC19K1393	43.001	N/A	1,304	-
Science, 80NSSC19K1690	43.001	N/A	117,078	-
Science, 80NSSC19K1693	43.001	N/A	16,007	-
Science, 80NSSC20K0435	43.001	N/A	21,118	-
Science, 80NSSC20K0760	43.001	N/A	64,656	-
Science, 80NSSC20K0586	43.001	N/A	181,323	-
Science, NNX16AC65A	43.001	N/A	6,571,856	-
Science, Pass through from Southwest Research Institute	43.001	K99078JRG	22,786	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	SV9-89013	19,521	-
Science, Pass through from Ball Aerospace and Technology	43.001	19KMB00102	71,840	-
Science, Pass through from University of Colorado	43.001	1000029751	78	-
Science, Pass through from Boston University	43.001	GC205312NGA	(164)	-
Science, Pass through from USRA	43.001	n/a	80	-
Science, Pass through from University of Colorado	43.001	1000166689	105	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO5-16078X	27,539	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO6-17057X	13,848	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO6-17073X	48,370	-
Science, Pass through from USRA	43.001	SOF 05-0063	5,208	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO7-18103X	2,961	-
Science, Pass through from Johns Hopkins University Applied Physics Laboratory	43.001	146918	39,393	-
Science, Pass through from Yale University	43.001	GR102632	18,932	-
Science, Pass through from University of Washington	43.001	UWSC10437	5,086	-
Science, Pass through from Million Concepts LLC	43.001	N1953	10,406	-
Science, Pass through from University of Toledo	43.001	F-2019-49	3,944	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO9-20070X	2,794	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO9-20070X	124	-
Science, Pass through from Villanova University	43.001	530037_STScI	2,054	-
Science, Pass through from Smithsonian Astrophysical Observatory	43.001	GO9-20070X	10,087	-
Science, Pass through from Jet Propulsion Laboratory	43.001	1539872	87,838	-
Science, Pass through from University of Michigan	43.001	3004701233	118,502	-
Science, Pass through from Georgia State University	43.001	SP00011775-01	(18)	-
Science, Pass through from New Mexico State University	43.001	Q02060	95,755	-
Science, Pass through from West Virginia University Research Corp	43.001	18-908-NSO	40,256	-
Science, Pass through from University of Colorado at Boulder	43.001	1557398	23,640	-
Science, Pass through from West Virginia University Research Corp	43.001	18-908-NSO-2	67,822	-
Science, Pass through from Stanford University	43.001	62356558-145590	9,795	-
Total for CFDA 43.001			10,337,338	203,793
Cross Agency Support, Pass-through from University Corporation for Atmospheric Research	43.009	SUBAWD001123	322	-
Total for CFDA 43.009			322	
Total National Aeronautics and Space Administration			193,257,394	32,807,981

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2020

Federal Grantor/Pass-Through Grantor/ Program or Cluster Title	Federal CFDA Number	Pass-Through Award Number	Total Federal Expenditures	Provided To Subrecipients
Department of Defense				
Basic and Applied Scientific Research , Pass-through from US Navy Observatory	12.300	N00189-19-P-Z104	4,531	-
Total Department of Defense			4,531	-
Department of Energy				
Data Acquisition/Data Archiving from DESI and delivery to the NERSC Facility - Energy, LBNL, Pass-through from The Regents of the University of California, LBNL	81.000	7306005	34,078	-
DESI - Energy, LBNL, Pass-through from The Regents of the University of California, LBNL	81.000	7266036	615,451	-
DESI - Energy, LBNL, Pass-through from The Regents of the University of California, LBNL	81.000	7471199	3,236,606	-
LSST Commissioning Services, Pass-through from SLAC National Accelerator Lab	81.000	SLAC 194609	134,377	
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	133,672	-
Total Department of Energy			4,154,184	-
Total Research and Development Cluster			349,064,275	38,221,680
Total Expenditures of Federal Awards			$ 349,064,275	$ 38,221,680

See Notes to Schedule of Expenditures of Federal Awards

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, 2020 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.

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 National Aeronautics and Space Administration ("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, 2020

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
b. Significant deficiency(ies) identified?	None Reported
3. Noncompliance material to the financial statements noted?	No

Federal Awards

1. Internal control over major programs:	
a. Material weakness(es) identified?	No
b. Significant deficiency(ies) identified?	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)	No
4. Identification of major programs	

Name of Federal Program	CFDA Numbers
Research and Development Cluster: National Science Foundation National Aeronautics and Space Administration Department of Defense Department of Energy	All CFDA Numbers 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?	Yes

Section B - Financial Statement Audit Findings

Finding 2020-001

Condition:

Accounts receivable and deferred revenue included variances between the trial balance and AURA's supporting schedules, resulting in a material adjustment. It should be noted that AURA modified its practices in the current year and the adjustment related to carry-forward balances from prior years.

Criteria:

Internal controls should be in place so that reconciliations are reviewed on a timely basis.

Cause:

Management's review of accounts receivable and deferred revenue was not done 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:

AURA has designed adequate internal controls over financial reporting, including policies and procedures requiring the timely preparation and review of account reconciliations; however, the internal controls over the review of accounts receivable and deferred revenue did not function as designed. We recommend a detailed reconciliation and review be performed on a timely basis.

Views of Responsible Officials and Planned Corrective Actions:

AURA agrees with the observation and recommendation. We have reconciled and corrected the variances over these accounts in fiscal year 2020. In fiscal year 2021, AURA reconciled accounts receivable and deferred revenue accounts to the subsidiary ledgers as part of the monthly close process.

Section C - Major Federal Award Program Findings and Questioned Costs

No matters were reported.

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

National Science Foundation

We have prepared the accompanying corrective action plan (CAP) 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). Specifically, for the finding described in the CAP, we are providing you with the title of the individual responsible for corrective action, the corrective action planned, and completion date for the finding described.

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, 2020

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

Sincerely,

Barb Lam (Jun 23, 2021 17:47 EDT)

Barbara Lam, Chief Financial Officer

FINANCIAL STATEMENT FINDING

Finding Reference: 2020-001 Accounts Receivable and Deferred Revenue Reconciliation

Responsible official:	Chief Financial Officer
Planned completion date:	Completed

Recommendation

AURA has designed adequate internal controls over financial reporting, including policies and procedures requiring the timely preparation and review of account reconciliations; however, the internal controls over the review of accounts receivable and deferred revenue did not function as designed. We recommend a detailed reconciliation and review be performed on a timely basis.

Views of responsible officials and planned corrective actions:

AURA agrees with the observation and recommendation. We have reconciled and corrected the variances over these accounts in fiscal year 2020. Effective October 1, 2020, AURA reconciled accounts receivable and deferred revenue accounts to the subsidiary ledger as part of the monthly close process.