

Leadership Profile



President

WITT / KIEFFER
Leaders Connecting Leaders

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This Leadership Profile is intended to provide information about the Associated Universities, Inc. and the position of President. It is designed to assist qualified individuals in assessing their interest in this position.

The Opportunity Overview

The Trustees of Associated Universities, Inc. (AUI) invite inquiries, nominations and expressions of interest for the position of President. As the organization's Chief Executive Officer, the next AUI President will be a distinguished, collaborative and entrepreneurial science leader who can promote the Corporation, increase its financial independence and advance the four foundations of its mission to support research, manage complex scientific facilities and programs, prepare the next generation of investigators and technical experts and further scientific discovery.

A non-profit corporation that has managed major federally supported national research facilities at the forefront of science for more than 50 years, AUI (www.aui.edu) operates the National Radio Astronomy Observatory (NRAO), the Long Baseline Observatory (LBO), and the Green Bank Observatory (GBO) under a cooperative agreement with the National Science Foundation (NSF). It also partners with the NSF on behalf of North America in the international consortium that manages and operates the Atacama Large Millimeter/sub-millimeter Array (ALMA) in Chile. NRAO's facilities include the Very Large Array in New Mexico; LBO facilities include the Very Long Baseline Array with stations at ten U.S. locations; and the GBO facilities include the Robert C. Byrd Green Bank Telescope in West Virginia.

The AUI Presidency is a compelling leadership position for a determined individual to have a global impact upon how science is advanced, multifaceted research facilities developed, technologies created, data services shared, and science education promoted. The next AUI President will inherit an ambitious research and development enterprise that is administratively nimble and financially solid. NSF recently approved a 10-year, \$862 million cooperative agreement with AUI to manage NRAO, and AUI is committed to broadening the scope of its activities by undertaking the management and operation of other major national and international facilities and programs for scientific research and education in areas where it is highly qualified. AUI will continue to focus on assuring adequate funding for the important work that NRAO, GBO, and LBO conduct in radio astronomy while also expanding AUI's business portfolio into other areas that impact science and technology.

Reporting to a distinguished and international Board of Trustees (<http://www.aui.edu/board-of-trustees>), the President has overall responsibility for the management and operation of AUI and serves as the principal spokesperson and advocate to engage external constituencies and partners to invest in AUI and its mission. She or he also promotes collaborations and represents the interests of AUI regionally, nationally and internationally.

Candidates for President should have a record of accomplishment and recognized stature in science, technology or engineering, a demonstrated ability and experience in senior-level management of scientific research enterprises and a familiarity with organizations that fund research nationally and internationally. The AUI Trustees seek innovative leaders who possess a record of advancing scientific and technological initiatives, research and education. He or she should have a track record of successful leadership of a sophisticated research organization and possess both the interpersonal and managerial skills necessary to build and operate an effective enterprise. A Ph.D. or equivalent degree is preferred. The President will have a strong commitment to increasing diversity and inclusion and will have demonstrated the highest level of integrity and ethical standards.

The new President will have the opportunity to guide and oversee ongoing and new initiatives at observatories and elsewhere with a team based at AUI Headquarters in Washington, DC. Starting date and salary are negotiable and will be based upon qualifications and experience. Additional information about AUI and a full position description will soon be made available at <http://www.aui.edu/president-search>

For information on how to be considered or to submit nominations, please refer to the section, "Procedure for Candidacy" below.

The Role of the AUI President

As the Chief Executive Officer, the AUI President holds a significant and influential role in international scientific leadership and advancing the frontiers of science, large instrument development and facilities management. The AUI President is responsible for the overall success, strategic direction and operational excellence of AUI and its facilities across the nation and internationally. He or she will lead in creating a shared vision, collective strategic planning processes, and organizational changes in response to the shifting landscape of research funding, emerging opportunities and challenges that might arise for the Corporation. Reporting to the Board of Trustees (<http://www.aui.edu/board-of-trustees/>), the President serves as the highest-level management liaison with the National Science Foundation and other governmental and private agencies.

AUI Administrative Organizational Structure and Direct Reports

Considering NRAO's predominance in AUI's current portfolio of activities, and AUI's goal of maximizing the resources available for research and service to the community, the organization has chosen to date to maintain a limited corporate infrastructure, focusing on high-level oversight of policy and operational performance. The Corporate Office provides leadership and promotes best practice, aligns corporate and research center planning and reporting systems, while delegating the day-to-day management of most administrative functions to the facilities. The organizational is chart illustrated below in Appendix 1.

Twenty-one staff members are directly managed at the corporate level, with the Vice President for Science & Programs, the Chief Financial Officer, the Vice President Administration and the Vice President for Radio Astronomy, who also serves as the NRAO Director, as the AUI President's direct reports. Thirteen of the twenty-one are based in Washington DC.

AUI's STEM Education Development Officer reports to the Vice President for Science & Programs, the Chief Financial Officer oversees both the Fiscal and Grants & Contracts area, while the Vice President Administration is responsible for Benefits Administration, and Corporate Secretary and Treasury functions. The NRAO Director as well as being responsible for the performance of the research centers, participates as an active member of the AUI Executive, in his role as AUI's Vice President for Radio Astronomy.

Opportunities and Expectations for Leadership

Among the many duties and responsibilities of the AUI President, the next executive leader will be expected to pursue and advance these principal objectives while also paying attention to new and developing issues and strategic opportunities.

NSF Cooperative Agreement and NRAO Management

Associated Universities, Inc. recently won a re-competition for a ten-year cooperative agreement to operate and manage the National Radio Astronomy Observatory (NRAO) commencing November 2016. On behalf of NSF, AUI has played a fundamental role in establishing the National Radio Astronomy Observatory (NRAO) and responding to the expressed needs of the US research community. The AUI President will ensure the continued success of NRAO and its facilities with partners in North America and Chile where the Atacama Large Millimeter/submillimeter Array (ALMA) is located. The President will ensure that strategic priorities and performance goals are aligned with the overall NSF Strategic Plan and that the achievements are measured, documented, and reported regularly.

Management and Operation of New Scientific Facilities and Programs

As research projects and facilities continue to advance, so must the research management field itself. AUI is an agile organization that adapts to stay in front of new technologies and to respond to emerging science and research challenges that result in greater scientific impact. AUI is committed to broadening the scope of its activities by undertaking the planning, management and operation of other major national and international facilities and programs for scientific research and education. The AUI President, in collaboration with the AUI Board of Trustees and executive staff, will explore and pursue new initiatives and programs in areas where AUI is well positioned and highly qualified to help design, build, and manage the next generation of facilities necessary for scientific research and discovery.

Administrative Leadership and Board Relations

The President provides oversight of all administrative aspects of AUI and provides leadership for recruiting a diverse and talented workforce, which includes 545 staff. In addition, AUI is the sole employer of the organization's local Chilean staff, which includes 238 at the Joint ALMA Observatory. The President is responsible for developing and managing a strong senior leadership team of executives to help oversee the scientific direction and operations of the Corporation. He or she will lead in creating shared vision, collective strategic planning, and organizational changes in response to the changing landscape of federally funded research, opportunities and challenges that might arise. The President will collaborate with the AUI Board and keep the Trustees informed about financial, administrative and strategic directions of the enterprise.

Fiscal Management and Operational Excellence

The AUI President is responsible for the fiduciary obligations and business practices of the Corporation, and the oversight of the research center budgets of approximately \$100 million annually. The President will monitor and assess AUI processes and organizational structures to ensure best practices, accountability, operational efficiencies, appropriate centralization and cost effectiveness of scale. The Board is open to considering new operating methods and structures that enhance business practices and respond to advantageous opportunities that advance the AUI enterprise and mission. In light of the uneven landscape for funding scientific research and education, the next AUI President will need to be creative and innovative in identifying and developing diverse revenue streams to support the AUI enterprise and mission. Part of these efforts may involve the transfer of technologies and intellectual property to the commercial sectors that gain from innovations, products and services resulting from AUI-supported research.

Reputation, Visibility and External Engagement

As the chief spokesperson for AUI, the President is responsible for bringing greater recognition and prominence to the organization and will advocate nationally and internationally on behalf of AUI with various constituencies, including government agencies, congressional representatives, public and private sectors, and international organizations. The President also serves as a convener and ambassador for the related sciences communities by maintaining close ties and coordination between AUI and professional societies, such as the American Astronomical Society (AAS), American Association for the Advancement of Science (AAAS), and the American Physical Society (APS). The President must champion collaborations that benefit the interests of AUI and its collaborating organizations as well as promote the many societal benefits of AUI's

distinctive research, technology development, education, and outreach programs.

STEM Education and Public Outreach

Part of the AUI mission to advance science and engineering includes informing the public of its achievements and helping to train, educate and diversify the next generation of scientists, engineers and technicians. AUI is focused on science for everyone, not just a privileged few, and has created various Education and Public Outreach (EPO) programs that are strongly integrated with their facilities and serve the public interest by creating innovative and effective approaches for STEM education and by developing hands-on opportunities for K through Gray learners. AUI also partners with the National Society of Black Physicists (NSBP) on programs to increase participation and retention of underrepresented groups in STEM-related careers. The next AUI President will ensure that these efforts are continued and enhanced to respond to an increasingly technologically sophisticated society and the need for a scientifically literate populace. This will require broadening the participation of under-represented groups in science education and workforce development through the management and operation of AUI facilities and programs.

Champion Transparency, Diversity and Inclusion

AUI and the Board of Trustees are committed to diversity and inclusion of all staff, stakeholder and partners. The next AUI President must continue to inspire and motivate staff at all levels while also recruiting and retaining a diverse and talented AUI workforce. Given the many demographic and societal changes taking place nationally and internationally, the next President must be attentive and sensitive to ensuring an organizational culture of openness, fairness and transparency that celebrates a diversity of thought and expression and that promotes an environment of tolerance, acceptance and inclusion. The new President must lend personal authority and passion to advancing diverse societal recruiting and ambitious “pipeline” development programs.

Qualifications and Guiding Principles of Assessment

The search for the next AUI President will be guided by this document and the values, goals and aspirations set forth by the original mission and mandate of AUI. The following lists of duties, responsibilities and professional qualifications will be used to help the search committee assess candidates.

The President is the Chief Executive Officer of AUI and reports to the Board of Trustees. The President is elected at the Annual Meeting of the Board for a term of one year, and is assisted in the discharge of responsibilities by other officers of the Corporation and by such additional staff as may be authorized by the Board. The President serves ex officio on the Executive Committee as its Vice Chair and also serves ex officio on the Operations and Administration Committee and the Nominating Committee. The President also normally serves on ad hoc Committees as may be established as necessary.

Primary Duties and Responsibilities

The AUI President implements all policies established by the Board and:

- Attends all Board and Executive Committee meetings and keeps the Trustees fully informed on all important matters affecting the quality, the direction and the financial

integrity of AUI and the institutions it manages;

- Ensures the effective leadership and management of AUI and its Research Centers and the adherence to high standards of scientific, managerial, operational and ethical excellence;
- In collaboration with the Chair of the Board, who assures appropriate Board participation, establishes Search Committees to identify candidates for Research Center Directorships and, in collaboration with the Search Committee Chairs, proposes candidates for Board approval;
- Conducts periodic performance reviews of Corporate officers reporting to the President and shares the results of such reviews with the Board;
- In consultation with the Chair of the Board, organizes periodic performance reviews of Research Center Directors and shares information emerging from such reviews with the Board;
- Establishes and maintains effective relationships with funding agencies that support operations of AUI Research Centers and with such other funding organizations as may become involved in current or future AUI operations. The President may be assisted in these matters by the Trustees, the Research Center Directors, and associated staff. The President, by virtue of overall responsibility for the Corporation's relations with its funding agencies, also has general responsibility for communication with those agencies. However, this latter responsibility, except for contractual relations and matters of fundamental importance to institutional operations, is ordinarily discharged by delegation to the Research Center Directors;
- Maintains cordial and effective working relationships with the Presidents and principal officers of other institutions that are concerned with the programs and operations of AUI Research Centers;
- Seeks research and management opportunities to which the Corporation could make significant contributions to issues of national importance;
- Reviews and approves all major contracts and subcontracts issued by Research Centers, and apprises the Board of such actions;
- Reviews and approves all annual and long-range program plans and subsequent amendments before submission to sponsoring agencies;
- Promotes science education;
- Executes all Corporate Office contracts, subcontracts, consultant agreements, and purchase orders as may be required to conduct normal business operations. Such authority may be delegated to other Corporate officers;
- Reviews and approves all annual and multi-year financial plans and subsequent amendments before submission to a sponsoring agency;
- Reviews and approves, in conjunction with the Board, all proposals to undertake efforts involving significant changes in the historical level of effort or scope of activities of Research Centers;
- Reviews and approves appointments, promotions and salary adjustments for certain senior level Research Center staff, sharing with the Board appropriate information regarding such actions;
- Promotes diversity and broad participation within the workforces of the Corporate Office and Research Centers, and within the broader science, engineering, and public communities that AUI and its Research Centers' missions touch. Designates an AUI

Diversity Officer to coordinate and monitor diversity initiatives, collect metrics on diversity across the organization, and make recommendations for policies and initiatives as appropriate;

- Develops, in conjunction with Research Center Directors, working relationships regarding Corporate review and approval of policy documents, single or multi-year resource estimates and periodic, technical, administrative or financial reports for funding agencies, whether such documents are in draft or final form; and
- Performs other functions normally associated with the office subject to additions and limitations stipulated by the Board; and
- In the event of absence or possible unavailability, and with the knowledge and consent of the Chair of the Board, may authorize other officer(s) of the Corporation to exercise the authority of the President for such period as the President deems appropriate.

Professional Requirements, Qualifications and Qualities

- A Ph.D. or equivalent degree is highly preferred.
- Broad knowledge and significant record of experience and achievement in sciences or engineering.
- Demonstrated track record of successfully providing strategic direction in achieving funding and revenue growth for the enterprise. Demonstrated ability to lead on a broad intellectual front for science and education.
- Strong interpersonal and collaborative skills.
- Demonstrated ability to work successfully with a range of constituencies, such as the university research community, appropriate governmental agencies, industry partners, and other interested entities.
- Advanced skill and demonstrated experience in planning, budgeting, managing, executing, and administering a complex research institution or facility of similar scale, including the ability to balance strategies and opportunities with capabilities and funding.
- Breadth of interest, vision, judgment, demonstrated through the successful management of research and/or technological development, and through effective service on national or international boards and committees dealing with science and policy goals, strategies, organization and management.
- Demonstrated ability to provide scientific leadership, management, and guidance to a diverse research-based staff. Advanced skill in assessing priorities among research and facility objectives, resulting in high quality programs that integrate and complement the efforts of AUI's broad related sciences.
- Knowledge of the scientific, political and funding opportunities relative to AUI's mission.
- Advanced skill in effectively communicating (orally and in writing) and advocating for programs, plans, activities and accomplishments to diverse audiences, including the scientific community, government agencies, the U.S. Congress, the public and private sectors, and international organizations.
- Leadership skills to inspire and motivate staff of all levels, and with a demonstrated commitment to fairness, diversity and inclusion.
- Experience with organizational change management and ability to deal with competing

institutional stakeholder interests, limited resources and ambiguity.

- Ability to address complex, sensitive, confidential and sometimes controversial matters with skill and diplomacy.
- Highest levels of integrity and ethical standards.

Procedure for Candidacy

Nominations and expressions of interest, including a CV and cover letter describing professional background and qualifications, can be sent in confidence to AUI-President@wittkiewer.com. Questions can also be directed to the above email address or by telephone (630-575-6154) to the Witt/Kiewer search consultants assisting AUI: Brian Bloomfield and Jane Courson. The position will remain open until filled, but for initial consideration materials should be received by May 1, 2017. The recruitment will be conducted in confidence until the new AUI President is announced.

AUI is an Equal Opportunity Employer.

Overview: Associated Universities, Inc.

AUI Mission

AUI collaborates with the scientific community and research sponsors to plan, build, and operate cutting-edge facilities. We cultivate excellence, deliver value, enhance education, and engage the public.

The Four Foundations of AUI

Driven by Science Impact: We help great science facilities achieve great science outcomes

AUI serve the interests of the broad research community and conducts research management—planning, building, and operating the complex facilities required for physical sciences research.

Experts at Managing Complexity: We have deep experience managing some of the World's most complex scientific facilities.

For nearly 70 years, AUI has successfully managed projects and facilities of immense national and international scope, requiring collaboration between multiple organizations and governments.

Ambassadors for Science: We help share the thrill of discovery with the World

AUI is a passionate advocate for the scientific communities it serves, representing their interests in ways that help secure attention, commitment, and funding for the future, but AUI outreach efforts also extend beyond those communities.

Catalysts for the Scientific Future: We want to help shape what comes next

As leaders in the scientific community, AUIs play a key role in the development of the next generation of science facilities. AUI participates in visioning and planning for these future facilities, as experts in research management and advocates for the fields we serve.

AUI Values

These values are core to AUI and our extended community. We embody these values in our work and in our service to science.

- ***Integrity:*** Openness, honesty, and fairness are core AUI principles; our employees' credibility is a source of great pride.
- ***Discovery:*** We care about science impact and are committed to the advancement of knowledge; we are always open to new ideas.
- ***Discipline:*** We believe our success in complex projects depends on hard work and acute attention to detail; we focus on results.
- ***Partnership:*** We bring people together to collaborate across organizations, cultures, and borders; engaged people with shared interests promoting the advancement of science.

History and Goals of AUI

Since its inception in 1946, as a partnership among nine US universities, AUI has evolved into a broad scope, independent, non-profit organization dedicated to research, development, and education in the physical sciences. AUI's primary goal is to enable excellence in research, while ensuring the effective and responsible use of science resources. AUI has strived to be a most inclusive, dynamic, and agile scientific facility management organization, promoting broad

participation and co-creating value in partnership with the academic research community and the government in a manner like no other.

AUI has a long history of achievement in the conceptual development, construction and operation of major scientific facilities in support of broad user communities. Primary examples are Brookhaven National Laboratory and the National Radio Astronomy Observatory (NRAO), the latter including the construction and North American operations for the Atacama Large Millimeter/submillimeter Array (ALMA). In addition, AUI has enabled innovative community ventures, including in recent years the Virtual Astronomical Observatory (VAO) and CCAT; has supported numerous education and outreach programs; and has enabled a strong tradition of technology development and transfer to benefit the larger astronomy community. In its management of NRAO, AUI has insisted the Observatory develop and operate its forefront radio astronomy facilities to enable the community to open and explore scientific frontiers, while conducting the research and development required to advance key technologies and lead the development of a next generation of world-leading facilities.

Each of the major research facilities designed, built, and managed by AUI, with widespread community endorsement and involvement, has driven the evolution of AUI as a uniquely capable organization. The skills learned through this experience, and the resulting capabilities added to the AUI repertoire, have enabled AUI to serve the needs of an ever-broadening research community.

Under cooperative agreement with NSF, AUI has managed NRAO since its inception in 1956, proactively establishing and maintaining the Observatory as the world's leading radio astronomy organization. AUI's successful management of NRAO has enabled spectacular progress in virtually every field of astrophysics and resulted in numerous broader impacts for US science education and society.

Future research opportunities in astronomy and other fields of science will increasingly be conducted as international partnerships. The expertise that AUI has gained from designing, constructing and operating ALMA and other major NRAO projects will find application in such contexts. AUI actively contributes its knowledge and offers its services to projects as a cost-effective, experienced partner in such scientific endeavors. This follows directly on AUI's underlying vision of enabling researchers to work jointly with others having similar objectives, to design, build, and operate the major research facilities necessary for their goals to be achieved.

AUI's role with respect to NRAO is to facilitate the growth and evolution of the Observatory while removing barriers to progress. AUI is responsible for the selection of the NRAO Director, and delegates optimum responsibility to the research center, allowing NRAO management and staff to focus on their mission to deliver scientific capabilities and serve the research community with strong and unparalleled support. AUI management oversight ensures continued community involvement. AUI governance and oversight are vital to NRAO's continued success.

Governance and Board of Trustees

AUI's Board of Trustees has wide-ranging, high-level experience and expertise in science, engineering, finance, and administration. Drawn from academia, research institutions, and industry, in the US and abroad, AUI Trustees facilitate a close link with the research community and provide oversight while AUI pursues programs of the highest scientific merit, ensuring community involvement in AUI activities. Each of the Trustees serves voluntarily and donates his or her time. There is no financial compensation for service on the AUI Board. As a governing body, the Board has three primary responsibilities:

- Stakeholder Linkage – connecting AUI with the research, education, government, and taxpayer communities that AUI serves;
- Policy Development and Strategic Planning – ensuring that AUI’s values and goals are aligned with those of these communities, and that AUI plans appropriately for its own and the communities’ future; and
- Organizational Performance and Oversight – ensuring that AUI and the facilities it manages make continual progress toward achieving our goals in a manner consistent with our fiduciary obligations.

The AUI Board currently consists of elected Trustees, plus the AUI President who serves ex officio as a voting Trustee. As AUI is an independent, non-profit corporation, the Trustees’ fiduciary responsibilities are solely to ensure that AUI’s science and education related mission is fulfilled. This structure differs from those of Boards that operate as consortia, in which the Trustees represent their home institutions.

The Board’s independence enables it to quickly adapt to changes in the research climate through timely restructuring, and incorporating new and needed expertise and capabilities. The composition of the Board is refreshed and supplemented on a frequent basis in response to the most prominent needs of AUI projects, facilities, and emerging interests. Trustee vacancies are filled after the detailed consideration of many factors including programmatic requirements, and the ongoing need to maintain governance continuity and diversity. The AUI Board currently includes two African-Americans, five women, and six international members.

The National Radio Astronomy Observatory

The National Radio Astronomy Observatory (NRAO) is the leading radio astronomy observatory in the world. From the establishment of the Observatory and throughout its dynamic life, AUI has played a crucial role in ensuring that NRAO achieves and maintains its global preeminence. AUI’s mission enables fundamental scientific discovery by successfully managing NRAO for the National Science Foundation (NSF) and by responding to the expressed needs of the research community with a steady succession of new observing capabilities and technologies. AUI’s management and operations plan for NRAO increases its potential impact and will facilitate the Observatory’s success through the next decade and beyond.

With the successful construction of the Atacama Large Millimeter/submillimeter Array (ALMA), and the remarkable enhancement of the Karl G. Jansky Very Large Array (VLA), two new forefront facilities with ever-increasing scientific capabilities are now in routine operation. Taken together, these iconic arrays fulfill a major milestone in modern astronomy, encompassing more than an order of magnitude leap in observational capabilities between 1GHz to 1THz. These facilities herald a golden age of discovery across all fields of astrophysics and breakthroughs in science.

NRAO was able to cope with the scale, complexity, management requirements, and international dimensions of these projects following an important restructuring. When implementing the restructuring, AUI exploited the substantial experience that exists amongst its staff, Executive and Trustees, and preserved the scientific creativity of the Observatory throughout the period of reorganization.

AUI uses its long-term presence in Chile, and relationships with the European and Japanese research communities, along with its deep understanding of the complexities of international governance that continues to effectively represent North American interests in ALMA, and

leverages its established good relations with the Chilean government.

Green Bank Observatory

AUI also manages the Robert C. Byrd Green Bank Telescope (GBT), the largest fully-steerable telescope in the world, at the Green Bank Observatory (GBO) in the National Radio Quiet Zone in West Virginia. Green Bank Observatory enables leading edge research at radio wavelengths by offering telescope, facility and advanced instrumentation access to the astronomy community as well as to other basic and applied research communities. With radio astronomy as its foundation, the Green Bank Observatory is a world leader in advancing research, innovation, and education.

The Green Bank site was dedicated in 1957, with the first telescope being completed there the following year. The site has eight telescopes ranging in diameter from 40 feet to 330 feet. Its principal telescope, the GBT, has a perfectly smooth collecting area of 2.4 acres. It weighs almost 17 million pounds and stands over 485 feet above ground level. The telescope has been in operation since 2003, and achieved full frequency operation in 2011. It has a pointing accuracy of 2 arc seconds; able to resolve a quarter at 3 miles.

The GBO employs 100 people on the Green Bank site year-round, and 140 people during summer months, and approximately 40,000 people visit the Green Bank site each year. More than 3,500 students from states from all across the U.S. participate in Green Bank's educational programs. Last year, 54 different groups came to spend at least one night and use the 40-ft educational telescope for research. About 15 residential workshops are held at GBO each year, for ages ranging from middle school through undergraduate students, graduate students, and teachers, as well as the general public, and GBO staff travel around the country and around the world to take part in educational programs and to talk about the science and technology of the Green Bank Observatory. The GBO's site technology development program typically works with 5-15 college/universities at any one time.

Long Baseline Observatory

AUI also manages the Long Baseline Observatory (LBO), which a continent-wide radio telescope system offering the greatest resolving power of any astronomical instrument in history. It is a system of ten identical radio-telescope antennas, controlled from a common headquarters and working together as a single instrument. The LBO's 240-ton dish antennas, each 25 meters (82 feet) in diameter, are spread from St. Croix in the U.S. Virgin Islands, across the continental United States to Mauna Kea, Hawaii. The radio signals received by each individual antenna are carefully combined to produce images of celestial objects with hundreds of times more detail than the Hubble Space Telescope images.

On 1 October 2016, what was the Very Long Baseline Array (VLBA) was separated from the suite of NRAO facilities and placed into the Long Baseline Observatory (LBO). This transition separated the VLBA from NRAO's Very Large Array (VLA) in New Mexico, though the LBO continues to work closely with NRAO to ensure continuity of services and efficient operations. The research facility continues to be called the VLBA, but the VLBA is now managed and operated by LBO.

AUI has sought to ensure minimal change to the user experience during the creation of the LBO, and migration of the VLBA into the LBO. New opportunities for technical improvements, such as the installation of new receivers, and further increasing the system bandwidth through new electronics and data transmission equipment are being sought for LBO.

A necessary consequence of the new partnerships that are enabling continued VLBA science operations is a reduction in time openly available to the VLBA community. The magnitude of impact is not yet precisely known, though a reduction of up to 50% is likely. Available VLBA science operations time continue to be awarded under an Open Skies policy: the highest-rated science observing proposals will continue to be awarded time, regardless of proposer affiliation.

The High Sensitivity Array, a Very Long Baseline Interferometry (VLBI) array consisting of the VLBA antennas, the phased Jansky VLA, the GBT, Arecibo, and Effelsberg, continue to be offered at upcoming calls for proposals with the same Open Skies policy, as is the global VLBI with the European VLBI Network and the Global Millimeter VLBI Array (GMVA). AUI looks forward to a continued stream of innovative proposals yielding high-impact science at LBO.

Broadening Participation

AUI is firmly committed to the principles of diversity and broad participation within its workforce, in the wider science and engineering communities that our missions touch, and with the public. This is rooted in fundamental AUI corporate policies, and carried through in corporate practices. Our broadening participation and diversity programs seek to fundamentally change the demographics of under-represented groups in astronomy, engineering and STEM fields. It is a continuous undertaking. The Office of Diversity Initiatives (ODI), a panel of key internal stakeholders reporting to the AUI President and the NRAO Director, is leading AUI's work here.

National Society of Black Physicists

AUI partners with the National Society of Black Physicists (NSBP) on programs to increase participation and retention of underrepresented groups in STEM-related careers. AUI also serves as the PI institution on the NSF award supporting the Annual Conference of the NSBP, the premier gathering of minority physicists and the largest recruiting fair for African American physics students and early career professionals.

Inside AUI

AUI and NRAO continue to seek a broader and more diverse workforce at all of their research sites through closely coordinated efforts that consider the entire workforce pipeline from recruitment to hiring and retention. These are actions relevant to every day, as, for example, in this era of tight budgets every hiring decision becomes important and every job search requires diligence and care to meet the mutually compatible goals of scientific and technical competence and a diverse and engaged workforce.

AUI is instituting regular rotating committees for recruitments following similar practices at Space Telescope Science Institute, visits to the annual NSBP, BEYA, SACNAS meetings to outreach and identify candidates, and are seeking out new and innovative ways to reach out to under-represented communities locally, nationally, and internationally, including via our social media platforms. We note that the largest percentage of Twitter users are African Americans aged between the ages of 18 to 29 (26% of users) followed by Hispanics (19% of users), with white, non-Hispanics falling in at 14%. Diversity related training initiatives are considered as part of the annual planning processes and we have a formal bi-annual Diversity Review to address the advantages and shortcomings in our workplace for under-represented minorities.

National Programs

Examples of some of the national programs and initiatives in which AUI is engaged include the National Astronomy Consortium (NAC) and the collaboration called PING (Physics Inspiring the Next Generation). Both programs have brought together AUI, NRAO, and the National Society of Black Physicists (NSBP). NAC is a growing partnership between majority universities and observatories and eleven historically black colleges and universities (HBCUs) with the primary mission to increase the number of students considering STEM and STEM careers that otherwise would have been overlooked or removed by the traditional academic pipeline. PING (a well-coordinated program with the goal to support students from middle to high school and into the NAC program, cultivating their interest in physics and radio astronomy) supports two White House initiatives; My Brother's Keeper, which is addressing the education needs of young men of color, and a second effort to promote interest in science among girls. The PING program was one of a number of key programs to receive recognition by the Office of Science & Technology's (OST) during its 2014 Week of Action to celebrate STEM and Black History Month.

International Programs

The National International Exchange Program (NINE) is a program to train and mentor students using bi-lateral faculty partnerships led by AUI and NRAO. It helps foster the next generations of scientists and engineers in STEM fields through vibrant partnerships between US and international partners in places like China, South Africa, Brazil, Chile, and India where a slew of important radio astronomy facilities have been and are now being constructed. Over several years now, AUI has facilitated discussions between NRAO and South African facilities such as SALT, KAT-7, MeerKAT and others, defining various Honors, Masters, and PhD level projects; thereby helping develop the local African pipeline for enticing the best and brightest from across Africa into high quality MSc and PhD programs.

AUI has sponsored very successful programs of student and teacher exchanges between Magdalena, New Mexico (near the VLA site) and San Pedro de Atacama, near the ALMA Observatory. Participants in this program described it as "life changing." AUI, NA ALMA, and NRAO EPO have committed to beginning this program again in FY 2017, with a view to later extending it to Latin American neighbors to encourage partnerships and programs in their countries.

Although US-based, the National Society of Hispanic Physicists now meets annually with the National Society of Black Physicists, with which AUI is now affiliated. AUI (and NA ALMA) plan to use this association to establish a program of lectures and student workshops at Hispanic-serving colleges and universities, encouraging participation in the NAC program for STEM learning.

Local Community Programs

The SEDUIP initiative (Socorro Electronics Division Undergraduate Intern Program) involves students in the production of NRAO hardware, software, and in drafting and design activities. Over 50 students have participated in the UIP in the last 12 years, many of whom are Hispanic engineering students native to New Mexico. This program is extremely beneficial to the students, and increases the visibility of AUI and NRAO in New Mexico while training potential future employees who will be well qualified to help NRAO retain its current world-class status for cutting edge radio signal processing technology.

Another very important site-driven effort is the African American Teaching Fellows initiative (AATF), which seeks to help recruit, support, develop, and retain a cadre of African American

teachers to serve the schools of Charlottesville and Albemarle County close to the NRAO HQ in Virginia. Nearly 30 percent of school-age children in Charlottesville and Albemarle County are African American, but less than 10 percent of their teachers are. Our involvement here seeks to redress the absence of African American teachers that currently leaves many African American students feeling disconnected from school. The disparity creates misperceptions and stereotypes that disadvantage all students, regardless of race, and impacts directly and indirectly at AUI's research facility.

Education & Public Outreach

AUI fully understands the contribution EPO can make in diversifying the future workforce. Engaging elementary school students in experiences that lead to wonderment of the universe ignite interests in STEM careers. Middle school is a time when students are making key decisions about what they feel they can and cannot do. If we can engage middle school students in real-world experiences that help them conclude that, "Yes, I can do science and math", we can get them to strongly consider careers in STEM. High school students who have an opportunity to participate in original scientific research are more likely to both enter and maintain a career in science compared to students who do not have these experiences (Markowitz, 2004; Roberts & Wassersug, 2009).

At the undergraduate level these research experiences also have great value. Then there are the parents of young learners. We know if we can engage the parents of young learners—in addition to their children—in STEM learning, the experience will be mutually beneficial. Our outreach efforts in Chile, such as the 2013 EPO exhibition on radio astronomy, involving the Santiago Metro, Santiago Planetarium, Antofagasta Cultural Center, National Museum of Science & Technology, and the Museo Mirador, our partnership to build the \$5 million planetarium in Antofagasta, and our involvement with the Chilean Virtual Observatory initiative will all have benefits for broadening participation among the Chilean population.

AUI recognizes that EPO has the power to change the face of the future, and that we have a responsibility to do so. AUI has set a goal for the EPO Program to increase by 10% annually the number of women and URM reached over the decade of the next NRAO Cooperative Agreement.

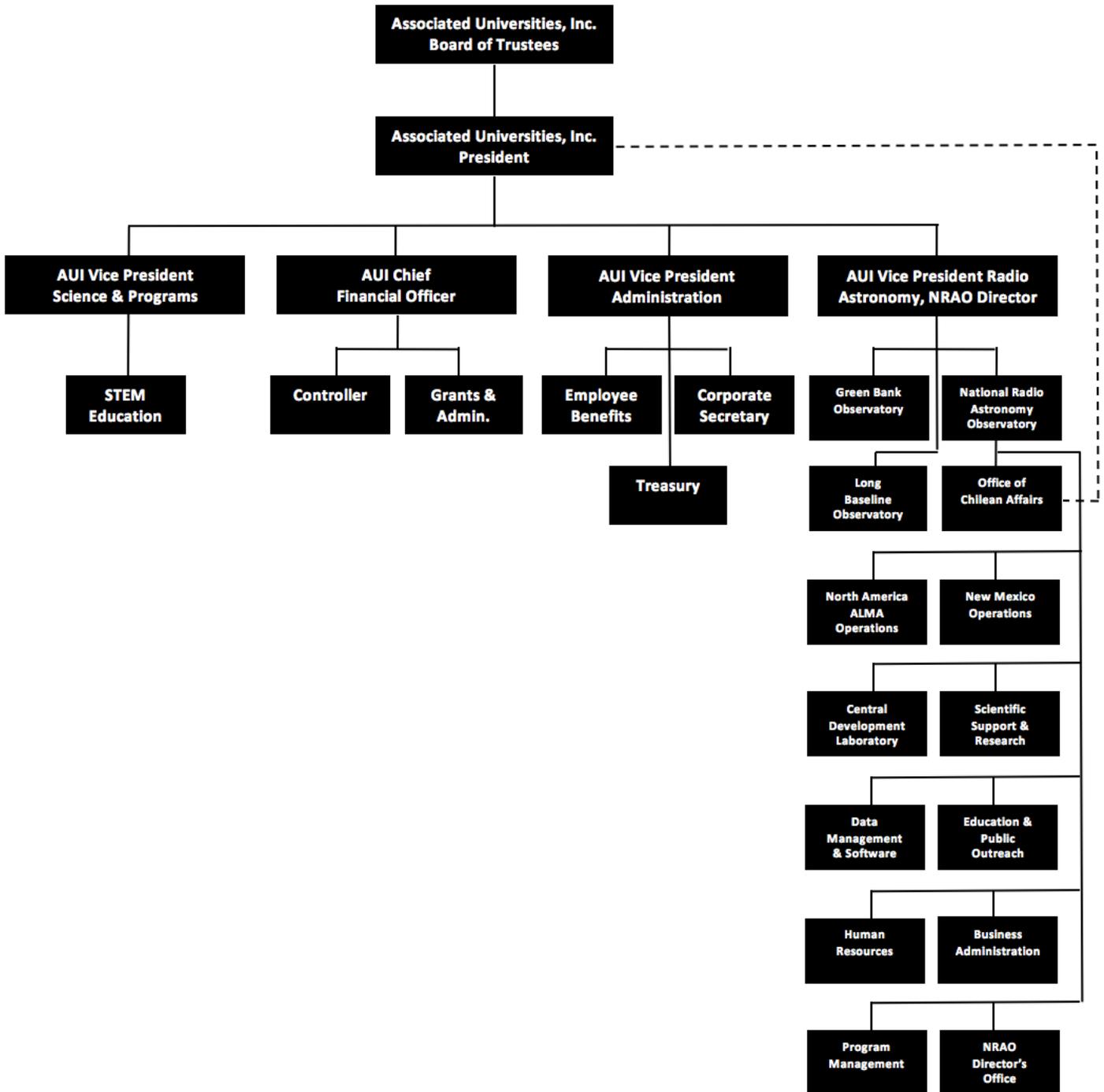
AUI's Work Culture

AUI's dedicated and accomplished employees have helped create, build, develop, and efficiently sustain world class research centers with pioneering scientific instruments, which have rightly gained reputations for enabling cutting-edge research.

AUI's talented and devoted people provide exemplary service to our user communities. They both value and thrive on the varied and exciting professional challenges associated with their roles. AUI's international team members routinely stretch their limits in order to enhance the capabilities of AUI's instruments and the reputations of its research centers. A personalized, hands-on, and effective service philosophy guides their work.

AUI recognizes that the success of its research centers depends on the support given their users and their value as recognized by the wider science community. We know that the loyalty of the community can only be gained and sustained through high levels of user support and community satisfaction with professional experience and their science results. Such satisfaction and results are influenced by the value of the services and tools placed at their disposal. That value is in turn generated by the work of satisfied, engaged, and productive AUI

Appendix 1: Organization Chart



Appendix 2: Search Committee Members

Dean Currie, Vice President for Business and Finance (Retired), California Institute of Technology (Chair)

Robert Williams, Astronomer Emeritus, Space Telescope Science Institute (Deputy Chair)

Claire Chandler, Deputy Assistant Director for Science, National Radio Astronomy Observatory

Roscoe Giles, Board Chair and Professor of Electrical & Computer Engineering, Boston University

Eugene Levy, Andrew Hays Buchanan Professor of Astrophysics, Rice University

Suzanne Staggs, Henry deWolf Smyth Professor of Physics, Princeton University

Eric Wilcots, Professor of Astronomy & Associate Dean for Natural and Mathematical Sciences, University of Wisconsin-Madison

Christine Wilson, Professor of Physics & Astronomy, McMaster University

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