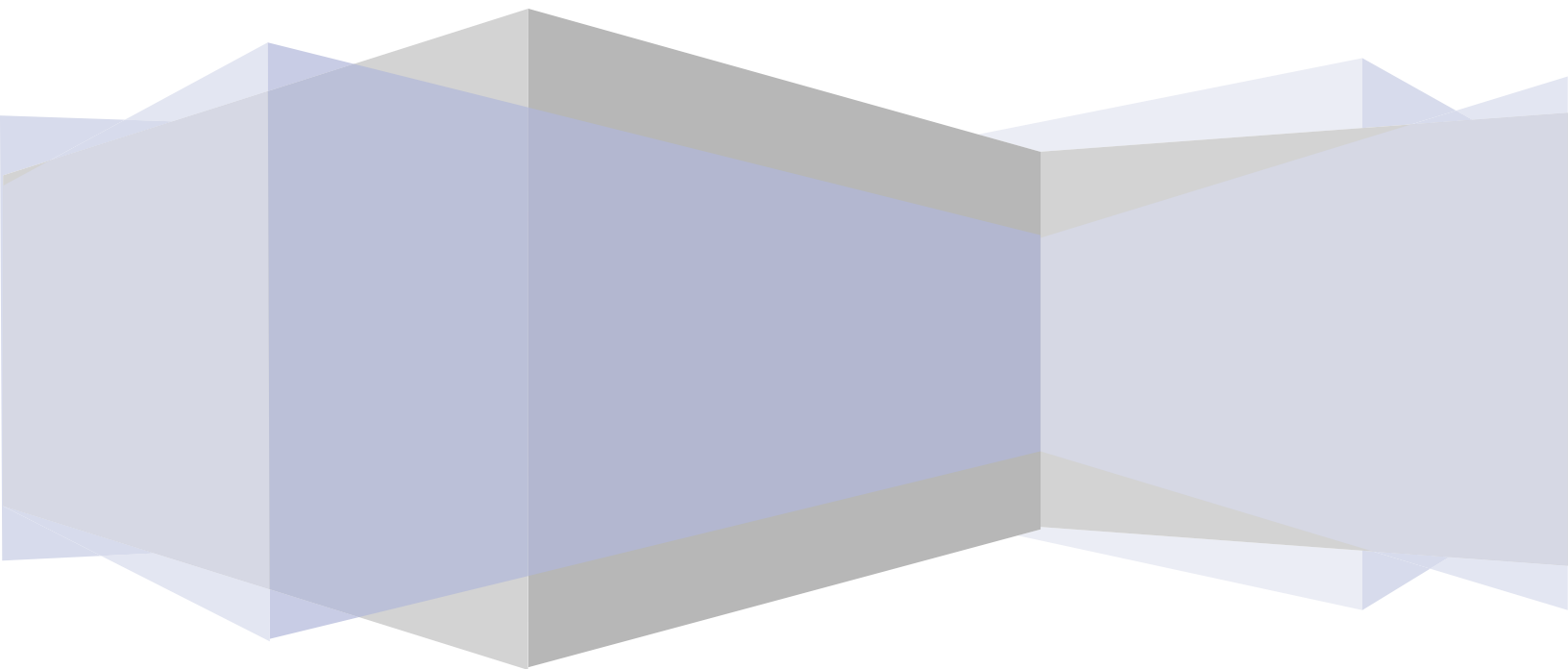




Association of American Universities

Policy Recommendations for President-Elect Obama





ASSOCIATION OF AMERICAN UNIVERSITIES

December 2008

Dear President-elect Obama:

On behalf of the [Association of American Universities \(AAU\)](#) and its [60 leading U.S. public and private research universities](#), I am pleased to offer the following policy recommendations for consideration by your transition team.

We are heartened by the commitment to science and technology that you demonstrated during your campaign and that you have acted on during the transition. This is especially true of your appointments to key Administration positions. Indeed, by appointing John Holdren as your science and technology adviser at such an early date, you have already addressed one of our major policy recommendations.

As your team works to develop an economic recovery package as well as longer-term national policy, a sustained focus on science and technology must be a top priority. We have already spoken with members of your transition team and offered recommendations about research funding, as an element of your economic recovery plan as well as your FY10 budget and beyond.

In the following document, AAU offers a series of research and technology policy recommendations that would help our nation to continue its global pre-eminence in science and high technology, improve the quality of life and national security of our citizens, and speed our nation's economic recovery.

After policy recommendations for the Office of Science and Technology and the Office of Management and Budget and that cut across agencies, we offer a series of recommendations *organized alphabetically by agency*.

We look forward to working with you and your Administration as you develop and implement policies to meet the nation's challenges. Your transition team can contact me and the AAU staff at 202-408-7500.

Sincerely,

Robert M. Berdahl
President

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OFFICE OF SCIENCE AND TECHNOLOGY POLICY

REAFFIRM AND STRENGTHEN THE PRINCIPLES THAT UNDERPIN THE UNIVERSITY-GOVERNMENT PARTNERSHIP.

The post-World War II basic research partnership between the federal government and universities has been a fundamental reason for American leadership in science and technology. This leadership has been critical to sustained long-term economic growth in the U.S. But recent developments threaten this unique partnership, undermining universities' ability to conduct important research on behalf of the federal government and the American people. These include increasing federal regulations and associated compliance costs; arbitrary restrictions on reimbursement to universities for the costs of conducting federal research; and growing restrictions on communication of, and access to, scientific results. As the nation seeks to revive the economy and restore long-term growth, it is more important than ever to reinvigorate the government-university partnership.

To do so, President Obama and his Administration should move quickly to reaffirm and strengthen the core principles that underpin the partnership:

- The federal investment in university-based research should continue to serve two vital national purposes: supporting critical research and educating the next generation of scientists, engineers, and scholars.
- Because merit review of research grant proposals has proven to be the most effective way to fund the most promising and productive research and has been a major factor in establishing U.S. scientific leadership, research projects should be selected based upon scientific merit as judged by leading scientists in a particular field, rather than on political or geographical considerations.
- Universities must ensure that research is conducted responsibly and with integrity by those who receive government funding.
- Universities must be accountable for the proper use of federal funds, but federal regulations should be designed to foster effective compliance and should not be unnecessarily burdensome or extend beyond their appropriate purview into institutional governance, which should remain a core responsibility of the university's trustees, faculty, and administration.

NAME THE PRESIDENTIAL SCIENCE AND TECHNOLOGY ADVISOR EARLY IN THE TRANSITION AND RAISE THE STATURE OF THE POSITION AND THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY IN THE NEW ADMINISTRATION.

Because science will play a critical role in how the next Administration addresses the nation's most pressing challenges, the Science and Technology Advisor should be designated as an

Assistant to the President and assigned Cabinet rank. The designation of the Science and Technology Advisor and that individual's nomination as Director of the Office of Science and Technology Policy (OSTP) should be among the first senior White House staff appointments and Cabinet-level nominations made by the President-elect. This action also would help ensure the selection of highly qualified candidates with strong science and technology credentials for later appointments in critical S&T positions.

*R*ETAIN A SINGLE PRESIDENTIAL ADVISOR FOR SCIENCE AND TECHNOLOGY WITH A STRONG ASSOCIATE DIRECTOR FOR TECHNOLOGY AND INNOVATION.

If a new Chief Technology Officer position is created, this individual's responsibilities primarily should be to oversee the use of technology within the White House and to coordinate the use of technology within the Executive Branch. The responsibility for coordinating and helping to shape science and technology policy across government agencies should remain that of the OSTP Director, as has historically been the case.

*S*TRENGTHEN OSTP'S ROLE IN COORDINATING SCIENTIFIC RESEARCH ACROSS FEDERAL AGENCIES, ACROSS SCIENTIFIC DISCIPLINES, AND IN SUPPORT OF NATIONAL GOALS.

*R*EESTABLISH ALL FOUR ASSOCIATE DIRECTOR POSITIONS WITHIN OSTP AS PERMITTED BY LAW. RETAIN THE ASSOCIATE DIRECTOR FOR SCIENCE AND REESTABLISH THE ASSOCIATE DIRECTOR FOR NATIONAL SECURITY AND INTERNATIONAL AFFAIRS POSITIONS. REFOCUS AND BROADEN THE SCOPE OF THE OTHER TWO POSITIONS IN THE FOLLOWING WAYS:

- Change the "Associate Director for Technology" to the "Associate Director for Technology and Innovation."
- Change the "Associate Director for Environment" to the "Associate Director for Energy and the Environment."

*R*ESTORE THE PRINCIPLE OF FEDERAL REIMBURSEMENT OF THE FULL COSTS OF RESEARCH:

- **Eliminate the 26-percent cap on university administrative costs of federally funded research.**

The new Administration should eliminate the current 26-percent cap on reimbursements of university administrative costs of federally funded research. The 26-percent cap is arbitrary and, in light of increasing government regulations and requirements, fails to adequately reimburse real, legitimate expenses incurred by universities for conducting research on behalf of the federal government. Administrative cost reimbursements should be determined by the well-established procedures in Circular A-21, which govern university indirect cost reimbursement.

- **Ensure that the letter and spirit of Circular A-21 are preserved by instructing all agencies not to place arbitrary caps on indirect facilities and administrative cost reimbursement.**

The new Administration should oppose congressionally mandated caps on agency reimbursements of indirect costs such as those currently imposed on Department of Agriculture research and on Department of Defense basic research.

ACROSS FEDERAL RESEARCH AGENCIES

*P*ROVIDE SUSTAINED AND BALANCED GROWTH FOR BASIC SCIENTIFIC RESEARCH.

The new Administration should follow through on President-elect Obama's commitment to increase substantially investment in basic scientific research. The National Academies' report, "Rising Above the Gathering Storm," encouraged greater investment in such agencies as the National Science Foundation (NSF) and the Department of Energy Office of Science. The basic research they support is critical to innovation and, thus, the nation's long-term economic competitiveness and growth.

Equally important is greater investment in National Institutes of Health (NIH) research; recent advances in genomics and proteomics demonstrate that we can make personalized, molecular medicine a reality for all of our citizens. Biomedical research supported by NIH promises the development of new diagnostics, therapies, and cures, as well as continued U.S. competitiveness in the life sciences through mid-century. Yet the investment in NIH has been stagnant, with a projected 17.6 -percent decline in real spending from FY03 through FY09.

Specifically, the new Administration should:

- follow through on President-elect Obama's commitment to increase funding for basic research in physical and life sciences, mathematics, and engineering at a rate that would double basic research budgets over the next decade;
- continue Department of Defense efforts to increase funding for defense basic research;
- recognize the critical role of NASA science in advancing the nation's innovation agenda;
- strengthen government funding for the humanities and social sciences to better prepare the nation and its citizens to understand and solve national and global challenges;
- make the R&D tax credit permanent, with removal of the current penalty for supporting R&D outside of the company, including at universities; and
- fund programs such as the Technology Innovation Program at the Department of Commerce that support new and innovative research partnerships between industry and universities.

*H*ARNESS THE FEDERAL GOVERNMENT'S INNOVATION AND SCIENTIFIC AND ENGINEERING RESOURCES TO ADDRESS THE MAJOR ENERGY AND ENVIRONMENTAL CHALLENGES FACING OUR NATION.

Addressing the nation's energy challenges is fundamental to long-term economic growth, preservation of the environment, and national security. As a part of its commitment to provide \$150 billion in funding for energy R&D over the next ten years, the Obama Administration should support funding for a government-wide, multiagency initiative through the National Science and Technology Council. This initiative, coordinated by the OSTP working with the Secretary of Energy, would aim to address our national energy production and self-sufficiency challenges in an environmentally sound manner.

The Administration should:

- ensure that the initiative includes significant support for basic research because of its critical role in the development of alternative forms of energy beyond current technology and conservation of fossil fuels;
- create, as part of that initiative, new programs to encourage high-risk, high-reward research in energy-related fields;
- ensure that the Department of Defense has a significant role in the initiative, because finding alternative energy sources is key to national security and because the Department is such a significant consumer of energy,
- expand the new Department of Energy fellowship program aimed at training a new generation of scientists and engineers to tackle energy security challenges;
- expand social science and economics research by the NSF in energy-related fields to help policymakers and the public understand the potential impact of markets, political and social behavior, and other factors on the feasibility of specific energy alternatives; and
- integrate energy research with existing and future research on and scientific understanding concerning climate change.

*L*AUNCH A MAJOR SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) EDUCATION INITIATIVE.

America needs a workforce that is ready to meet the innovation challenges of the 21st century. However, too few American students are well-versed in science and mathematics and too few are pursuing careers in science and technology fields. Some recent developments are encouraging, including enactment of the America COMPETES Act and establishment of new science and mathematics programs at NSF and the Departments of Education, Energy, and Defense. But more needs to be done. The new Administration should launch a major STEM education initiative that, among other elements, should:

- **Implement and support the K-16 STEM education programs authorized by the America COMPETES Act.**
- **Increase coordination of STEM activities across federal agencies.** Create a new interagency committee under the National Science and Technology Council focused on improved coordination of STEM education activities across the federal government.

- **Increase graduate fellowships and traineeships.** The initiative should increase substantially the number of graduate fellowships and traineeships supported by federal science and education agencies, as authorized by the America COMPETES Act. This would include expanding the new Department of Energy fellowship program aimed at training a new generation of scientists and engineers to tackle energy security challenges. The initiative also should increase funding for such existing programs as NSF's Graduate Research Fellowship and IGERT programs and the Department of Education's GAANN program.
- **Support young scientists.** Create new sources of competitive research funding at federal research funding agencies for exceptional young scientists and engineers. This could include expanding existing early career award programs, creating new investigator research awards for promising scientists less than 45 years old, and grants and start-up funding to support top postdoctoral fellows who are seeking their first faculty appointments.
- **Improve K-12 STEM education.** Actions should include: expanding support for summer STEM and foreign language teaching institutes at universities for K-12 teachers, such as those supported through the NSF Teacher Institutes for the 21st Century program; creating a mentoring and tutoring program that offers college students a stipend for tutoring K-12 students in STEM and foreign language coursework; and encouraging states to create innovative programs, modeled on UTEACH and CALTEACH, to develop a larger and more diverse cadre of STEM teachers.

*L*AUNCH A MAJOR NEW INNOVATION ACCELERATION INITIATIVE.

This initiative should be designed to stimulate economic growth and the creation of new businesses and high-quality jobs by providing approximately \$1 billion in new funding directly to the states and to universities to promote increased commercialization of promising university discoveries, university-industry collaborations, and new campus-based entrepreneurial education programs.

These funds could be used to facilitate and expand state commercialization gap funds, industry-university engagement, entrepreneurial education programs, tax credits, and other state-based incentives aimed at tapping the results of university research. As a part of this initiative, specific programs should be created focusing on the following areas:

- Commercialization – especially through venture capital investment;
- Increasing the connections between faculty and students and regional companies and startups; and
- Encouraging teaching and learning about entrepreneurship on university campuses and in local communities.

Another key component of this initiative should be, as noted above, to make permanent the R&D tax credit and to modify it so that instead of penalizing companies that invest in university research, as the credit does now, it creates an incentive for such investments.

The initiative should be overseen by the Department of Commerce in close coordination with other mission-oriented research agencies, such as the Department of Energy and the National Institutes of Health, which share an interest in the commercialization of university and federal laboratory research results.

DEPARTMENT OF COMMERCE

*C*REATE WITHIN THE DEPARTMENT OF COMMERCE AN OFFICE TO OVERSEE AND ENSURE CONSISTENT IMPLEMENTATION OF FEDERAL TECHNOLOGY TRANSFER LAWS.

A government technology transfer oversight function for the Department of Commerce was an important part of the U.S. technology transfer system authorized by the Bayh-Dole Act in 1980. The purpose was to ensure that federal technology transfer laws were being applied as intended to best serve the public good and to help the Department propose needed legislative and policy changes. The Department was also supposed to issue an annual report to the President and Congress on how technology transfer authority was being used and how policies and implementation could be improved. Unfortunately, culminating with the elimination of the Technology Administration office in 2007, the Department's oversight role in U.S. technology transfer has been greatly diminished, and the office that had this responsibility has been eliminated.

A new Office of Technology Transfer Oversight should be established within the Department of Commerce and report directly to the Secretary. The responsibilities of this office should include:

- exercising existing statutory authority to oversee and ensure consistent implementation of federal technology transfer laws by all federal agencies;
- reporting annually to the President and Congress on federal laboratory and university technology transfer performance under the law, together with suggestions for improving the system; and
- leading an interagency committee on technology transfer.

DEPARTMENT OF DEFENSE

*E*VALUATE AND ASSESS THE CURRENT DARPA STRUCTURE AND OPERATIONS.

In recent years, the Defense Advanced Research Projects Agency (DARPA) has deviated from its original mission of supporting high-risk, high-payoff research. Its organization and priorities should be reviewed to ensure that the agency is effectively accomplishing its founding purpose. This review should include examining the role and autonomy of DARPA program officers.

*C*ONTINUE TO PROVIDE STRONG SUPPORT FOR THE MINERVA INITIATIVE AND TO WORK WITH THE NATIONAL SCIENCE FOUNDATION TO IMPLEMENT AND OPERATE THE PROGRAM.

The Minerva Initiative is a new program designed to enable the Department of Defense (DOD), working with the National Science Foundation, to draw on social science research and researchers to better understand and respond to new global security threats. Minerva supports social science research in areas of critical importance to U.S. national security through interdisciplinary and cross-institutional projects and programs.

*B*ECAUSE FINDING ALTERNATIVE SOURCES OF ENERGY IS KEY TO OUR NATIONAL SECURITY, THE WHITE HOUSE SHOULD ENSURE THAT THE DEPARTMENT OF DEFENSE HAS SIGNIFICANT DESIGN AND FUNDING ROLES, ALONG WITH DOE, IN ANY MAJOR GOVERNMENT CROSSCUTTING ENERGY RESEARCH INITIATIVE.

This effort should be aimed at helping DOD test new energy alternatives for military use and reduce the dependence of the U.S. military on foreign oil.

*E*XPAND THE DOD NATIONAL DEFENSE EDUCATION PROGRAM (NDEP).

- This program provides scholarships and fellowships to students in critical fields of science, mathematics, and engineering in return for a commitment of federal public service. It is modeled on elements of the original National Defense Education Act. Like its predecessor program, NDEP is both attracting top talent into fields that are vital to national security and cultivating future scientists and engineers who will be eligible to work in federal positions requiring security clearances.

DEPARTMENT OF EDUCATION

*E*XPAND ACCESS TO HIGHER EDUCATION, PARTICULARLY DURING THIS ECONOMIC DOWNTURN, SO THAT ALL STUDENTS HAVE THE OPPORTUNITY TO ACQUIRE THE KNOWLEDGE AND SKILLS THEY NEED TO SUCCEED IN THE COMPETITIVE GLOBAL ENVIRONMENT OF THE 21ST CENTURY.

To reduce financial barriers to higher education:

- increase funding of student aid programs newly reauthorized by the Higher Education Act, especially the Pell Grant, Supplemental Educational Opportunity Grants, and Federal Work-Study programs;
- continue efforts to enhance benefits for student borrowers and increase borrower protections, including expanding loan flexibility, extending the grace period in federal student lending programs, providing campuses with outstanding funds for cancellations in the Perkins Loan program, and shoring up the private lending market by extending the insurance pool to assist lenders in providing loans at a more affordable interest rate; and
- improve federal higher education tax benefits.

*R*EVIEW THE REGULATORY COMPLEXITIES OF ADMINISTERING FEDERAL STUDENT FINANCIAL AID, INCLUDING THE APPLICATION AND DELIVERY PROCESSES.

To simplify federal student aid and ease the burden on students and their families, while reducing the regulatory burden on institutions of higher education, the Department of Education should:

- simplify the FAFSA form and application process, and work with the IRS to obtain necessary financial information;
- implement best practices in administering student aid that reduce regulatory burden and that have been proven effective by the experimental sites program authorized by the Higher Education Act; and
- support the Advisory Committee on Student Financial Assistance study of the impact of financial aid federal regulations on higher education and ensure that the study is an effective first step in the broader study by the National Academy of Sciences of the impact on higher education of all federal regulations across all agencies, as authorized in the Higher Education Opportunity Act.

*E*STABLISH A DIVISION OR SERVICE IN THE OFFICE OF POSTSECONDARY EDUCATION TO ADMINISTER GRADUATE EDUCATION PROGRAMS.

Currently, the Javits Fellowship and GAANN graduate education programs are housed in the Department's Teacher and Student Development Programs Service. While many of the students who benefit from these programs become postsecondary faculty who help train K-12 teachers, the primary purpose of these programs is graduate education, not teacher development.

*A*PPPOINT A NEW ASSISTANT SECRETARY FOR INTERNATIONAL EDUCATION TO OVERSEE AND ADMINISTER ALL OF THE DEPARTMENT'S INTERNATIONAL EDUCATION PROGRAMS, INCLUDING THE HEA TITLE VI AND FULBRIGHT-HAYS PROGRAMS IN THE INTERNATIONAL EDUCATION PROGRAMS SERVICE, AS WELL AS THE K-12 PROGRAMS.

A 2006 National Academies study recommended that the Department of Education “consolidate oversight of its international education and foreign language programs under an executive-level person who would also provide strategic direction and consult and coordinate with other federal agencies.”

*I*NCREASE THE NUMBER OF STUDENTS STUDYING ABROAD TO MEET THE GROWING DEMAND FOR GLOBALLY COMPETENT COLLEGE GRADUATES.

This initiative should focus on recruiting students from groups that have been under-represented in the traditional study abroad population and on identifying opportunities for study in less-frequented destinations, consistent with the goals of the Paul Simon Study Abroad Foundation Act, which was passed by the House in 2007.

*S*UPPORT THE NEW UNIVERSITY SUSTAINABILITY GRANTS PROGRAM AUTHORIZED BY THE HIGHER EDUCATION OPPORTUNITY ACT OF 2008.

This program will help colleges and universities make a significant contribution to our society's efforts to reduce pollution and increase energy efficiency.

DEPARTMENT OF ENERGY

*T*HE NEW ADMINISTRATION SHOULD SEPARATE THE POSITIONS OF UNDER SECRETARY FOR SCIENCE AND DIRECTOR OF THE OFFICE OF SCIENCE.

Separating these two positions would improve coordination of science and technology across the Department of Energy (DOE). The Undersecretary for Science should be granted full authority to coordinate the Department's portfolio of energy-related science and technology activities and budgets—in basic and applied areas and in defense and non-defense research—ranging from the Office of Science to areas such as Energy Efficiency and Renewable Energy. This change reflects the legislative intent of the Energy Policy Act of 2005, under which DOE first received the authority to create a new Under Secretary for Science in order to improve such coordination.

*I*MPLEMENT AND SUPPORT THE NEW ENERGY FRONTIER RESEARCH CENTERS (EFRC) PROGRAM.

The EFRC program is aimed at stimulating energy research, training capacity, and infrastructure at universities and accelerating advances in energy technologies. The announcement of this new program in the President's FY09 budget generated tremendous interest on universities campuses. The Department of Energy has received more than 260 university applications for the new centers program, totaling some \$1 billion. Funding should be provided in FY10 and beyond at a level sufficient to ensure at least a 25-percent success rate. This would enable DOE to fund all of the high-quality EFRC proposals it receives.

*C*REATE A DOE ENERGY TRAINING INITIATIVE.

The federal government should implement this new comprehensive fellowship program authorized by the America COMPETES Act in order to produce the scientific and technical talent needed in key energy-related disciplines.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

***E**ND CURRENT RESTRICTIONS ON FEDERAL FUNDING OF HUMAN EMBRYONIC STEM CELL RESEARCH, WHICH HAVE HINDERED NOT ONLY OUR SCIENTISTS' ABILITY TO EXPLORE THE PROMISE OF THERAPIES AND CURES BUT ALSO OUR NATION'S ABILITY TO COMPETE SCIENTIFICALLY AND TECHNOLOGICALLY WITH OTHER COUNTRIES.*

The President should revoke the current prohibition on providing federal funding for research involving embryonic stem cell lines derived after August 9, 2001.

Not later than 90 days after revocation of the current policy, the Secretary of Health and Human Services, in consultation with the Director of NIH, should develop scientific and ethical guidelines for federal funding of research involving human embryonic stem cells to replace existing guidelines.

DEPARTMENT OF STATE

S **STRENGTHEN U.S. HIGHER EDUCATION AND ENHANCE INTERNATIONAL UNDERSTANDING BY ENCOURAGING INTERNATIONAL STUDENTS AND SCHOLARS TO COME TO U.S. COLLEGES AND UNIVERSITIES AND PROVIDING THEM WITH A CLEAR PATH WHERE APPROPRIATE TO EMPLOYMENT AND PERMANENT RESIDENCY.**

- The federal government should create clear pathways to permanent residency and U.S. citizenship for talented international students who earn U.S. academic degrees, as well as for outstanding international scientists, engineers, and scholars teaching and conducting research in the U.S.
- The State Department should reaffirm its commitment to the timely and efficient processing of visas for international students and scholars, so that the time for processing generally does not exceed two weeks.
- The State Department should reconsider an earlier policy decision that prohibits international students, scholars, scientists, and engineers from renewing their visas in the United States.

T **HE STATE DEPARTMENT SHOULD STRENGTHEN ITS ACADEMIC AND CULTURAL EXCHANGE PROGRAMS.**

International exchange programs serve our nation’s “soft diplomacy.” They help U.S. students and scholars better understand other nations and peoples, while enabling international students and scholars to better understand the U.S. and its citizens. These academic and cultural exchanges also create the foundation for long-lasting relationships and collaborations that can lead to new knowledge, economic development, and improved conflict resolution.

NATIONAL ENDOWMENT FOR THE HUMANITIES

*E*STABLISH A NEW HUMANITIES GRADUATE STUDENT GRANT PROGRAM AT THE NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH).

Because the NEH is the only federal agency supporting academic research and scholarship that does not also support graduate education, a new program bringing humanities faculty and graduate students together in collaborative agreements similar to those common in the natural sciences is needed to help build a culturally competent workforce. Such a collaborative program would give practicing scholars and the next generation of scholars in the humanities new opportunities to explore national issues that benefit society while providing support for the graduate students so engaged.

NATIONAL SCIENCE FOUNDATION

*M*AINTEIN THE COST-SHARING POLICY ADOPTED BY THE NATIONAL SCIENCE BOARD IN OCTOBER 2004.

After significant discussion and review, the National Science Board (NSB) decided in October 2004 to eliminate program-specific cost-sharing. AAU and other higher education associations strongly supported this decision. Recently, however, Congress directed the NSB to reexamine its cost-sharing policy. The NSB has already reinstated mandatory cost sharing for EPSCoR, ERC, and I/URC grants and is reviewing its voluntary cost-sharing policy. The NSB should reaffirm its existing policy against program-specific cost-sharing.

*E*XPAND BEHAVIORAL AND SOCIAL SCIENCE RESEARCH TO SUPPORT EFFORTS TO MEET KEY NATIONAL CHALLENGES.

The NSF is a critical sponsor of research in the behavioral and social sciences. These disciplines provide key insights into complex societal problems and, along with research in the biological and physical sciences, provide a multidimensional view of both the root causes and potential solutions to these problems.