



Office of Science and Technology Policy

Open Government Plan

Version 4.0
September 2016

Congress established the Office of Science and Technology Policy (OSTP) in 1976 with a broad mandate to advise the President and others within the Executive Office of the President on the effects of science and technology on domestic and international affairs. The mission of OSTP is threefold; first, to provide the President and his senior staff with accurate, relevant, and timely scientific and technical advice on all matters of consequence; second, to ensure that the policies of the Executive Branch are informed by sound science; and third, to ensure that the scientific and technical work of the Executive Branch is properly coordinated so as to provide the greatest benefit to society.

Along with other offices within the White House, OSTP coordinates domestic participation with the Open Government Partnership, a global coalition of 64 governments and hundreds of civil-society organizations. This participation includes the establishment and implementation of Open Government National Action Plans, which are biennial blueprints that detail specific and measurable open government commitments. Additionally, OSTP coordinates open government efforts across agencies by leading the Interagency Open Government Working Group, which meets monthly to discuss open government opportunities and to guide agencies as they release these Open Government Plans every 2 years.

This plan provides updates on OSTP's open government efforts since the publication of the 2010, 2012, and 2014 OSTP Open Government Plans. Such initiatives are organized around transparency, public participation, collaboration, and open innovation methods.

OSTP engages with stakeholders to receive feedback on its work. Specifically, for this fourth Open Government Plan, OSTP staff solicited input from across all divisions of the office and held a brainstorming session where colleagues could collaborate on ideas for the plan. OSTP invited interested stakeholders from civil society to offer suggestions through an in-person meeting over the summer prior to release of the plan and will continue to seek feedback as the office implements the plan.

1. Transparency

A. Access to scientific collections

Scientific collections are assemblies of physical objects that are valuable for research and education, such as drilling cores from the ocean floor and glaciers, seeds, insects, space rocks, cells, mineral samples, and fossils. These collections are public assets that play an important role in promoting public health and safety, homeland security, trade, economic development, medical research, resource management, education, and environmental monitoring. They are studied across diverse fields of research and are used and re-used to validate and extend past research results as new analytical techniques develop. For the American public, students, and teachers, they are also treasure troves of information ripe for exploration and learning. OSTP has directed agencies to develop policies to improve the management of and access to scientific collections that agencies own or support. OSTP staff have convened an Interagency Working Group on Scientific Collections (IWGSC) to share best practices and to facilitate agency compliance with the directive. Completed agency policies are made available on agencies' Open Government webpages ([www.\[agency\].gov/open](http://www.[agency].gov/open)) and on the [IWGSC website](#). The IWGSC has also coordinated agency efforts to launch and populate a [registry of U.S. Federal Scientific Collections](#) that serves as a clearinghouse of information about object-based scientific collections that are owned or managed by Federal departments and agencies, and helps make information about these scientific collections more transparent and accessible.

B. Access to Scientific Data and Publications

OSTP has directed Federal agencies with annual research and development (R&D) expenditures of more than \$100 million to develop plans for increasing access to the results of unclassified research they support, specifically scholarly publications and digital data. This effort aims to boost the returns from Federal investments in R&D by making Federal research results accessible to the largest possible audience—other researchers, business innovators, entrepreneurs, teachers, students, and the general public—and expanding opportunities for scientific knowledge to catalyze innovative breakthroughs that can support economic growth, health, energy, environmental protection, agriculture, and national security. Most Federal science agencies have completed their public access plans and are proceeding with implementation. Completed plans are posted on agencies' [www.\[agency\].gov/open](http://www.[agency].gov/open) webpages. For newly funded agency research, investigators are required to develop data-management plans and to ensure that a copy of the final version of any peer reviewed journal article accepted for publication is made publicly accessible not more than 12 months after the official date of publication in an agency-designated repository. Agency policies have been developed with considerable stakeholder input, drawing on the expertise of researchers, universities, libraries, publishers, users of Federally funded research results, and civil society organizations. OSTP is convening a series of interagency meetings to improve coordination of policy implementation across agencies, promote collaboration in addressing common challenges, and chart a course for further improving access to the results of Federally funded research.

C. U.S. Global Change Research Program

The U.S. Global Change Research Program (USGCRP), an interagency program charged with coordinating the global change research programs of 13 Federal agencies, and overseen by OSTP, is legally mandated to, among other things, conduct a National Climate Assessment

(NCA) every 4 years. The third and most recent NCA was released in May 2014, a product that benefited significantly from extensive public and non-federal expert engagement, as well as review by the National Academy of Sciences. As an extension to the traditional assessment program, USGCRP is building a sustained assessment process that facilitates a continuous and transparent participation of scientists and stakeholders across regions and sectors, enabling new information and insights about climate change impacts and risks to be assessed and synthesized as they emerge. Through the sustained process the U.S. Government can more efficiently support the climate adaptation and preparedness information needs of Federal agencies, private businesses, civil society, and local, State, and tribal governments.

The USGCRP has developed a comprehensive, web-based approach to information provision, known as the [Global Change Information System](#) (GCIS). The GCIS provides an open source, curated gateway to scientific climate and global change information, publications, data, and metadata produced by Federal agencies participating in USGCRP. The GCIS supports traceability and provenance between multiple environmental data streams (such as observations from sensors and output from climate models) and the resulting publications, creating an open environment for users to access machine-readable information. As an initial focus, the GCIS provides traceability and appropriate meta-information for the scientific data and information used in the National Climate Assessment such that interested parties can understand and trace the sources of all the NCA-derived information and statements.

D. Open Data, Earth Observations, and Environmental Data

A core principle held by the U.S. Government is that Federal Earth-observation and other environmental data are public goods, paid for by the American people, and that free, full, and open access to these data significantly enhances their value. The return on Federal investment in Earth observations grows with the data's increasingly widespread use in public- and private-sector decision-making. To increase access and use of Earth observation and environmental data, OSTP is supporting the following initiatives:

- [Common Framework for Earth Observation Data](#): At a time when increasing data volumes present new management challenges, successful sharing of Earth observation data depends upon effective Federal data-management practices. The Common Framework for Earth Observation Data, developed by OSTP through an interagency effort, helps to improve the discoverability, accessibility, and usability of Earth observation data. Data managed in such a way by the United States and foreign governments accelerates the flow of information and decision-support products for protection of life and property, economic and technological progress, and sustainable development. This management approach is particularly significant for data pertinent to understanding of global environmental phenomena and their impact on human societies and ecosystems.
- [Arctic Digital Elevation Models](#): Through a collaboration between the National Geospatial-Intelligence Agency and the National Science Foundation, OSTP enabled the production of the first unclassified, high resolution, publicly available Digital Elevation Models (DEMs) of Alaska and the Arctic. These DEMS provide critical information that will support decisions related to climate resilience, land management, sustainable development, safe recreation, and scientific research, and will serve as a benchmark for measuring future landscape changes. The Pan-Arctic maps, which use high-resolution satellite imagery from Digital Globe, depict 3-D representations of elevations at the unprecedented resolution of two meters, are available

through NGA's website and at nga.maps.arcgis.com. DEMs viewers, tools, nautical charts, sailing directions, and infographics are also made available on the NGA's website to complement the Pan-Arctic maps.

- *[Climate Data Initiative](#)*: The Climate Data Initiative (CDI) was launched in 2014 with a Presidential call to action to private-sector innovators "to leverage open government data resources and other datasets to build tools that will make America's communities more resilient to climate change and to forge cross-sector partnerships to make those tools as useful as possible." The CDI has resulted in an unprecedented amount of climate-relevant data made more easily accessible and usable by the public. To ensure continued success of the CDI, OSTP will develop a synthesis of the standards, guidelines, best practices, and lessons learned through the development and implementation of the various data policies, initiatives, and other efforts to enhance the accessibility, discoverability, and usability of climate-relevant data.
- *[Open Water Data Initiative](#)*: Quantifying the availability of, use of, and risks to national water resources is an effort of national importance for the present and the foreseeable future. Improving access to data and enabling open exchange of water information is foundational to identifying and understanding existing water resources issues and developing sustainable future solutions particularly in the face of increasing climate variability and change. To address this challenge, the Open Water Data Initiative seeks to integrate currently fragmented water information into a connected, national water data framework and to leverage existing systems, infrastructure and tools to underpin innovation, modeling, data sharing, and solution development. As part of this Initiative and the Administration's National Drought Resilience Partnership (NDRP) Strategic Plan, OSTP is working with the Subcommittee on Water Availability and Quality (SWAQ) to assess, strengthen, and connect existing space-based, airborne, and terrestrial data-collection and monitoring capabilities for water use and availability. OSTP will also work through the Energy-Water-Food Task Force to identify Federal projects with the potential for valuable open data.
- *[Supporting Open Data](#)*: With the Office of Management and Budget and the General Services Administration (GSA), OSTP helps to coordinate the Interagency Open Data Working Group, which meets biweekly and invites civil society colleagues to join the meetings on a quarterly basis. OSTP has supported GSA as it continues to upgrade Data.gov, the government's home of open data, tools, and resources. OSTP also continues to host and support open data events such as the [National Day of Civic Hacking](#), Open Data Day, and other workshops and events. In September 2016, OSTP will support OMB in hosting the White House [Open Data Innovation Summit](#) to showcase ways that data has helped address some of the biggest challenges facing government.

E. Presidential Innovation Fellows

The White House established the Presidential Innovation Fellows (PIF) program, formalized via Executive Order in August 2015. The PIF program, conceptualized by OSTP and now spearheaded by GSA, brings entrepreneurs, executives, technologists, designers and other innovators into government, and teams them up with Federal employees to build a more open and digital government by improving programs that serve more than 150 million Americans. Since 2012, 113 fellows have served in 25 agencies to create products and services that are user-friendly, data-driven, open source, and citizen-centric to improve the way the Federal government interacts with Americans. PIF projects include [The Opportunity Project](#), which uses

open government data and digital tools to expand access to opportunity to all Americans to help families, communities, and local leaders navigate information about the resources they need to thrive such as public transportation, government services, and schools. Another project is the [Blue Button](#) initiative to increase citizen access to their own health information electronically, in a format they can use and reuse. OSTP continues to support GSA's Presidential Innovation Fellows program as they build products and services to make government resources more transparent and available to taxpayers.

F. Arctic Policy

To share information about the activities of the Arctic Executive Steering Committee (AESC), a new interagency group chaired by OSTP, the AESC created a new [website](#) that includes a subscription email service for periodic updates and announcements. President Obama established the AESC in 2015 to enhance coordination of Arctic efforts across the Federal government. The website shares highlights, news, publications, policy documents, resources, and will include up-to-date information on the upcoming White House Arctic Science Ministerial. The 2013-2017 Arctic Research Plan of the Inter-agency Arctic Research Policy Committee (IARPC) is being implemented through an open and collaborative approach, coordinated by OSTP. Collaborative teams of scientists from Federal agencies, the State of Alaska, the academic community, NGOs, and private sector organizations are sharing their experience and expertise, and working together to solve hard problems and accelerate the pace of Arctic research. IARPC collaborations currently have almost 900 U.S. and overseas members who are contributing their talents to achieving a vision of a prosperous, sustainable, and healthy Arctic. Progress is openly tracked on [the IARPC Collaborations website](#), where one can join a team (or teams); participate in Webinars; share news and information; and provide updates to the milestones that measure the progress of the implementation of Arctic Research Plan 2013-2017. OSTP oversees IARPC through the National Science and Technology Council.

G. Proactive Disclosures

OSTP [proactively discloses](#) frequently requested material and information that may be of interest to the public. Examples include speeches, presentations, strategic plans, fact sheets, national strategies, research plans, roadmaps, memoranda, Congressional testimony, and R&D budgets. In addition, OSTP's website houses many documents and reports related to the work of the [National Science and Technology Council](#) (NSTC) and the [President's Council of Advisors on Science and Technology](#) (PCAST). OSTP continues to identify additional documents and types of documents that might be published in the Resource Library.

H. Websites

The [OSTP website](#) holds a trove of information about the office's work including the types of documents discussed above in the Proactive Disclosures section. OSTP's website is available at www.whitehouse.gov/ostp. OSTP also coordinates content for the White House's Open Government website (www.whitehouse.gov/open), including the Open Government Initiative blog and the @OpenGov Twitter feed.

I. Privacy

OSTP's Senior Agency Official for Privacy ensures that OSTP complies with all applicable privacy reporting requirements. OSTP reports applicable privacy compliance information

periodically, as appropriate, to the Office of Management and Budget and the Office of Administration. OSTP also advanced open data and My Data initiatives, which collaborate and synergistically support the [Privacy Council](#) launched in January 2015. For example, OSTP led the 2016 Open Data Roundtables [series](#) to identify best practices with privacy, data management, data quality, and more.

J. Public Notice

OSTP engages with the public in a variety of ways to ensure the public participates in the activities and efforts of the office. OSTP uses the Web to encourage participation through the office's website, as well as through the OSTP blog and Twitter feed (@whitehouseostp). Public portions of meetings of the President's Council of Advisors on Science and Technology (PCAST), an advisory committee of scientists and engineers that directly advises the President, are streamed online and posted in the Federal Register and provide for public comment periods.

For example, in May 2016, the White House [announced](#) a series of actions as part of a new White House Future of Artificial Intelligence (AI) initiative, designed to learn more about the benefits and risks of AI. Since making that announcement, OSTP co-hosted five public workshops in different areas of the country—the first in Seattle at the University of Washington, focused on the legal and governance implications of AI, the second in Washington, DC, focused on AI for public good, the third in Palo in conjunction with the Global Entrepreneurship Summit, the fourth in Pittsburgh to discuss safety and control for AI, and the fifth in New York City to explore AI's social and economic implications. These events were accessible to the public in person and via livestream and social media. OSTP built on these efforts and expanded the opportunity for public participation in this conversation by soliciting public input on the subject of artificial intelligence via a [Request for Information \(RFI\) published in the Federal Register](#). The RFI's purpose was to solicit feedback on how America can best prepare for the future of AI, including information about AI research and the tools, technologies, and scientific training that are needed. OSTP has [published](#) the public comments received in response to the RFI, and is preparing a public report on AI, and a national R&D strategic plan for AI, for publication in fall 2016.

K. Records Management

OSTP works closely with the Office of Administration on OSTP's records management efforts. OSTP has designated a Senior Agency Official to supervise records management for the office and in February 2014 completed a self-assessment of the office's compliance with records management requirements. The National Archives and Records Administration (NARA) supports OSTP in this domain with both an electronic recordkeeping and filing system and records management training, and OSTP is currently working with NARA to update its records schedule. In addition, OSTP has developed internal, staff-wide, formal training, based on agency policies and directives, on the retention and management of email records as well as records created and maintained in electronic formats. This training is provided as part of the office's onboarding process and for continuing employees on a periodic basis.

L. Freedom of Information Act Requests

OSTP strives to respond to FOIA requests in a timely manner and works to minimize any backlog of pending requests. OSTP's Chief FOIA Officer discusses the presumption of openness

with agency personnel to encourage the release of records that might otherwise have been withheld under applicable FOIA exemptions. Responsive records subject to an exemption are often reviewed several times and considered for potential discretionary releases. OSTP's FOIA webpage includes FOIA contact information, information on OSTP's FOIA processing, and links to OSTP's FOIA reports.

2. Public Participation

A. PCAST

The [President's Council of Advisors on Science and Technology](#) (PCAST) is an advisory group of experts from outside of government who are among the Nation's leading scientists and engineers, appointed by the President to augment the science and technology advice available to him from inside the government. The Council is co-chaired by OSTP Director John P. Holdren and is a public-facing effort. Portions of PCAST meetings are open to the public, live-streamed, and are [archived](#) on the OSTP website. Before each meeting, PCAST receives written public comments and during each meeting hears oral public comments, all of which are carefully considered. The advisors provide input on policy recommendations concerning science, technology, and innovation, which are made available in PCAST's reports, all of which are [posted online](#). PCAST has addressed technology in higher education to improve outcomes and lower costs, opportunities for strengthening cybersecurity, and technological aspects of big data and privacy as part of the President's 2014 requested review of big data and the future of privacy, among numerous other topics. In September 2016, PCAST completed a study looking at what additional scientific steps could usefully be taken to strengthen forensic-science disciplines and ensure the validity of forensic evidence used in the Nation's legal system. To inform the study, PCAST issued an online, open solicitation to broaden input, in particular from the forensic-science practitioner community. More than 90 responses were received, including almost 400 citations to the published literature.

B. Broadening participation in STEM

Since its last issuance of this report, OSTP has further accelerated its pursuit to broaden participation throughout the STEM and innovation enterprise. This includes infusing diversity of intellectual perspectives as well as diversity of participants, such as groups historically underrepresented in STEM like women and girls, some ethnic and racial groups, and people with disabilities. Building upon greater understanding of the opportunities and challenges inherent in advancing diversity and of ways to harness its power to spur more creativity, more innovation and better problem-solving of scientific research and education challenges, numerous Administration research and education priorities seek to broaden participation. All of these activities have been promoted through broad dissemination and open communications media. Notably, the President's FY 2017 budget proposes the OSTP-led *STEM for All* Initiative, which focuses on four areas to strengthen education and research opportunities for all, including groups historically underrepresented in STEM. These areas include: active learning to engage teachers and students in STEM courses; course access for all, designed to provide all PreK-12 students access to critical STEM courses, including computer science; [bias mitigation](#) to reduce the impact of bias in both Federal workplaces and Federally-supported institutions of higher education; and improving the [image of STEM](#) to reduce the prevalence and impact of implicit bias in STEM education, STEM workplaces, and society more broadly through imagery in

entertainment and classroom media. The My Brother's Keeper (MBK) Initiative seeks to improve educational and life outcomes for all, including young boys and men of color, across the educational and life continuum. In addition, other research and innovation priority activities have been designed to broaden participation, including the Precision Medicine Initiative, entrepreneurship (e.g., Demo Day), the White House Science Fair, and the White House Maker Faire.

C. Biotechnology regulatory reform

On July 2, 2015, the Executive Office of the President (EOP) issued a [memorandum](#) directing the primary agencies that regulate the products of biotechnology—the U.S. Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), and the U.S. Department of Agriculture (USDA)—to update the [Coordinated Framework for the Regulation of Biotechnology](#) by clarifying current roles and responsibilities, develop a long-term strategy to ensure that the Federal biotechnology regulatory system is prepared for the future products of biotechnology, and commission an expert analysis of the future landscape of biotechnology products to support this effort. Through these updates, the Administration has the goal of ensuring public confidence in the regulatory system and improving the transparency, predictability, coordination, and, ultimately, efficiency of the biotechnology regulatory system. The Administration is undertaking this update with a view that regulatory approaches should protect health and the environment while reducing regulatory burdens and avoiding unjustifiably inhibiting innovation, stigmatizing new technologies, or creating trade barriers. The Administration released a [Request for Information](#) in October 2015 seeking relevant data and information, including case studies, that can inform the update to the CF by clarifying the current roles and responsibilities of the EPA, FDA, and USDA and the development of the long-term strategy consistent with the objectives described in the July 2, 2015 EOP memorandum. The Administration also [announced](#) it would hold three public meetings on the topic in different regions of the country. The [first](#) public meeting was held on October 30, 2015, at the FDA's White Oak Campus. The [second](#) public meeting was held on March 9, 2016 at EPA's Region 6 Office in Dallas, Texas. The [third](#) public meeting was held on March 30, 2016, at the University of California's Davis Conference Center in Davis, California. On September 16, 2016, OSTP [announced](#) two new documents as part of the Administration's continuing effort to modernize the Federal regulatory system for biotechnology product: (1) its proposed Update to the Coordinated Framework, and (2) the National Strategy for Modernizing the Regulatory System for Biotechnology Products.

D. Precision Medicine Initiative

In his 2015 State of the Union address, President Obama launched the Precision Medicine Initiative (PMI) as a bold new effort to revolutionize the practice of medicine by taking into account an individual's genes, environment, and lifestyles to create specific and targeted approaches to treating illness and understanding health. Through collaborative public and private efforts, the Precision Medicine Initiative will leverage advances in genomics, emerging methods for managing and analyzing large data sets while protecting privacy, and health information technology to accelerate biomedical discoveries. PMI will provide the foundation that allows all Americans to sign up and share their data in a safe and responsible way, leading to scientific breakthroughs that will ultimately pave the way to better options for patients. Another part of the Initiative will engage a million or more American volunteers to contribute their health-related

data to a national research cohort managed by the National Institutes of Health (NIH) in order to fuel the development of new treatments and catalyze a new era of data-based and more precise medical treatment to improve health outcomes. OSTP works with NIH, the Department of Veterans Affairs, FDA, other HHS agencies, and the Department of Defense to coordinate agency efforts around PMI. OSTP also collaborates with academia, industry, and stakeholders to inform, improve, and advance PMI goals. For current information on the Precision Medicine Initiative, please visit the PMI [website](#).

3. Collaboration

A. White House Science Fair

The White House continued to host the [White House Science Fair](#) to highlight the ingenuity and entrepreneurship of the next generation of scientists, engineers, mathematicians, and innovators. Students that attended the 2016 Science Fair tackled some of the Nation's greatest challenges—from combating climate change, to uncovering new ways to fight cancer, to discovering ways to reach farther beyond Earth as a part of the Mars generation. The Science Fair has allowed OSTP to bring in over 600 students from all walks of life who are actively working to solve the problems of today and tomorrow to collaborate and learn from one another. For example, 9-year-old Kimberly and 11-year-old Rebecca Yeung from Seattle, Washington, built a homemade “spacecraft” out of archery arrows and wood scraps, and launched it into the stratosphere via a helium balloon. Called the Loki Lego Launcher after their late cat and a Lego figurine, the craft recorded location coordinates, temperature, velocity, and pressure and reported the data back to the young inventors on the ground. Kimberly and Rebecca hope to show other children that science and engineering is not only interesting and accessible for kids, but a lot of fun as well.

B. Week of Making

America has always been a nation of tinkerers, inventors, and entrepreneurs. In recent years, a growing number of Americans have gained access to technologies such as 3D printers, laser cutters, easy-to-use design software, and desktop machine tools. This, in combination with freely available information about how to use, modify, and build upon these technologies and the availability of crowd funding platforms, is enabling more Americans to design and build almost anything, including in collaboration between government and the public. Empowering students and adults to create, innovate, tinker, and make their ideas and solutions into reality is at the heart of the Maker Movement. Since the first-ever White House Maker Faire, the White House has continued to support opportunities for students to learn about STEM through making, expand the resources available for maker entrepreneurs, and foster the development of advanced manufacturing in the United States. The White House celebrated the [National Week of Making](#) to announce new actions and recognize individuals making significant contributions to Making and the Maker Movement. OSTP continues to support the Maker Movement, including by convening local leaders and identifying opportunities for them to collaborate with government on shared goals.

C. National Week at the Labs

In February 2016, OSTP launched the first-ever National Week at the Labs: more than 50 world-class Federal labs in twenty cities opened their doors to neighborhood students, many of them in communities that have accepted the President's MBK Community Challenge. Alongside Federal employees, students simulated particle collisions, chatted with astronauts and toured the

Kennedy Space Center, operated robots, and got a close up look at rare equipment, like a U.S. Navy exoskeleton. Mayors and community leaders in Boston, Orlando, Houston, Albuquerque, and Atlanta, and everywhere in between, got in on the fun too and participated in events. Many of them have developed strategies to increase access to STEM training, higher education, and summer STEM jobs for area students.

D. White House Astronomy Night

On October 19, 2015 OSTP led the second White House Astronomy Night bringing together students, teachers, scientists, engineers, and space enthusiasts for an evening of stargazing and hands-on activities on the South Lawn of the White House. Participants had the opportunity to look through twenty telescopes set up on the grounds, as well as view models of the new James Webb Space Telescope and commercial spacecraft under development; examine up close the greenhouse used to grow vegetables on the International Space Station as well as samples of rocks from the Moon, Mars, and meteorites; immerse themselves in a tour of the universe inside an inflatable planetarium; and participate in a question and answer period with NASA's newly announced commercial crew astronauts. In addition to the activities that took place at the White House, organizations in 35 states hosted more than 80 separate Astronomy Night events at the same time. Museums, universities, schools, National Parks, and astronomy clubs around the country welcomed students, teachers, and their local communities to share the excitement of astronomy and explore the universe visible in their own backyards. OSTP developed and released a toolkit to provide resources and activity ideas for the public to participate in Astronomy Night from anywhere in the country.

E. Health Security Policy

Health care workers in Ebola-affected countries perform critical tasks that save lives and prevent the spread of the virus. Personal protective equipment (PPE) offers critical protection, but also is the greatest source of discomfort and stress for the workers. While PPEs protect health care workers, they cannot be worn for more than 40 minutes in hot climates, severely limiting the time health care workers can care for their patients. In response to the challenge of personal protective equipment (PPE) and the unprecedented Ebola outbreak, OSTP collaborated with the U.S. Agency for International Development, the Centers for Disease Control and Prevention, and the Department of Defense to launch [Fighting Ebola: A Grand Challenge for Development](#) to help health care workers on the front lines provide better care and stop the spread of Ebola. The Grand Challenge engages the global community to identify ingenious ideas that deliver practical and cost-effective innovations in a matter of months, not years, forges public-private collaborations necessary to test and scale these innovations, and provides critical funding to get some of the most promising ideas into the field quickly. USAID created a publicly-accessible listserv for updates and information.

4. Open Innovation Methods

A. Prizes and challenges

In 2009, President Obama's Strategy for American Innovation called on agencies to increase their use of prizes and challenges to address some of our Nation's most pressing challenges. To support these ongoing efforts, OSTP has led agencies in incorporating prizes and competitions to engage citizen solvers. OSTP and the General Services Administration have trained more than

2,000 agency staff through workshops, online resources, and an active community of practice. The prize competitions being run across the Federal Government are detailed at Challenge.gov, a one-stop shop where tens of thousands of innovators and citizen solvers have participated in more than 700 of these public-sector prize competitions.

B. Citizen Science and Crowdsourcing

In 2015, President Obama's updated Strategy for American Innovation and a follow-up [memorandum](#) from OSTP Director Dr. John Holdren called on all agencies on to increase the use of citizen science and crowdsourcing. To help continue building agency capacity to use these tools, OSTP has worked closely with the Federal Community of Practice for Crowdsourcing and Citizen Science (CCS), GSA, and the Woodrow Wilson International Center for Scholars to launch CitizenScience.gov, which includes a catalog of citizen science projects as well as the Federal Crowdsourcing and Citizen Science Toolkit, both of which OSTP continues to work with these collaborators to keep updated and relevant. OSTP also works with the CCS and GSA to provide training through workshops and online resources, and supports the CCS in its monthly meetings to share lessons learned and develop best practices for designing, implementing, and evaluating crowdsourcing and citizen science initiatives.

C. NSTC

The National Science and Technology Council (NSTC) was established by Executive Order on November 23, 1993. This Cabinet-level Council is the principal means within the executive branch to coordinate science and technology policy across the diverse entities that make up the Federal R&D enterprise. Chaired by the President, the membership of the NSTC is made up of the Vice President, the Director of the Office of Science and Technology Policy, Cabinet Secretaries, agency heads with significant science and technology responsibilities, and other White House officials. A primary objective of the NSTC is the establishment of clear national goals for Federal science and technology investments in a broad array of areas spanning virtually all the mission areas of the executive branch. The Council prepares R&D strategies that are coordinated across Federal agencies to form investment packages aimed at accomplishing multiple national goals. The work of the NSTC is organized under five primary committees: Environment, Natural Resources and Sustainability; Homeland and National Security; Science, Technology, Engineering, and Math (STEM) Education; Science; and Technology. Each of these committees oversees subcommittees and working groups focused on different aspects of science and technology and working to coordinate across the Federal Government. NSTC groups host public workshops, publish public reports that are available [online](#), request public input on science and technology policy issues, request public comment on draft reports, and engage with industry and academia.