

**NSF Advisory Committee for Business and Operations**  
**Electronic Book**  
**Virtual Fall 2022 Meeting**  
**December 12, 2022**

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**National Science Foundation**  
**Advisory Committee for Business and Operations**  
Fall 2022 Virtual Meeting

December 12, 2022  
Zoom Webinar

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**December 12, 2022**

11:00 am      **Welcome/Introductions/Previous Recommendations**

*Co-Chairs: Pamela Webb and Maureen Wylie*

11:15 am      **Updates: Annual Conflicts of Interest; BFA; OIRM; Budget/OLPA**

*Presenters: Janis Coughlin-Piester, BFA; Wonzie Gardner, OIRM; Caitlyn Fife, BFA; Amanda Greenwell, OLPA*

12:00 pm      **Knowledge Management at NSF**

**Presentation:**

Over the past decade, NSF has changed. Our budget has grown 30% larger. The agency has added a new directorate and new functions. Further, employees have new ways of interacting in the hybrid environment. The old ways of sharing knowledge – such as going to an expert and asking questions – will no longer suffice on their own. Knowledge needs to be out in the agency – in addition to in our experts' heads – for all to access, which mitigates the risk from loss of permanent and rotator staff, increases our efficiency, and allows for more agile and strategic decision-making. In March 2022, NSF appointed an executive, Dr. Linda Blevins, to lead Knowledge Management (KM) frameworks for the agency. As a first experiment, Blevins is leading the conceptualization, development, and implementation of KM for internal policies. She is also developing a KM roadmap for the agency. NSF is using two key definitions in its work:

- *Knowledge Management (KM)* comprises a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizations, as processes or practices (OPM definition).
- *Knowledge* (as opposed to information) is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (Davenport and Prusak, 2000).

In the NSF of the future, internal knowledge sharing will be consciously planned, executed, and reflected upon in every activity. We will have the tools and staff to support the work, and our employees will be rewarded for paying it forward. Further, staff at all levels will be well informed about operational and strategic developments at NSF.

**Committee Action/Feedback:**

1. How does Knowledge Management (KM) work in your current or former organization?
2. Knowledge Management is about people and culture more than about technology. What have you seen work in your organizations to motivate the behavior changes needed for effective KM?
3. What are some effective technology implementations for KM?

*Presenter: Linda Blevins, OD/OIA*

*Discussant: Ben Brown*

1:00 pm      **Lunch Break**

1:30 pm      **Hybrid Workforce Evaluation**

**Presentation:**

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Federal agencies, including NSF, are transitioning to hybrid workplaces (i.e., workplaces that incorporate a mix of employees working onsite and employees working from geographically dispersed locations). NSF adopted its new, hybrid work posture in October 2022 with two possible designations for all positions – “telework positions” that require some physical presence onsite at NSF, and “remote eligible positions” that do not require any physical presence onsite. The assignment of each NSF position into one of the two designations followed extensive agency research, with decisional deliberations led by NSF’s Office of the Director and its designees.

NSF intends to periodically review the assignment of positions within the two position designations based on recurring evaluations of the impact of designations on NSF employees and on the agency’s ability to achieve its mission. The agency’s overarching human capital goal, aligned with the agency’s strategic goals and codified in NSF’s 2022-2026 Strategic Plan, is, “Attract, empower and retain a talented and diverse workforce.” The elements within that goal provide the framework for the Hybrid Work Posture Evaluation.

NSF’s Division of Human Resource Management (HRM) is currently drafting the Hybrid Work Posture Evaluation plan, to include key metrics and performance indicators that will allow incremental assessments to inform future decisions about talent management and human capital strategies. We seek the Committee’s expert feedback and insights to help ensure our Hybrid Work Posture Evaluation plan is aligned with industry best practices and structured to optimize its value as a vehicle to inform and promote effective change management as the agency’s work posture evolves. We also seek suggestions about strategies for maximizing the agency’s ability to attract, develop, engage and retain its workforce in situations when changes to position designations are desired by employees but are not currently feasible or viable

**Committee Action/Feedback:**

NSF plans to engage the Committee and ask the following questions:

1. What research questions are critical to NSF understanding the impact of its hybrid work posture on its human capital goals and on its workforce?
2. Has the Committee experienced, or become aware of, barriers to the type of evaluation being planned and/or challenges we should anticipate and mitigate?
  - a. What strategies should we employ for making meaningful inferences from data from unavoidably small population sizes?
3. Are the metrics/measures currently proposed appropriate and sufficient to identify changes occurring within the NSF employee population and in the agency’s ability to achieve its targeted human capital goals?
  - a. At what frequency should evaluation data be collected, analyzed, and reported to leadership?
  - b. To what extent, if any, should analyzed data be shared beyond NSF executive leadership team?
4. At what frequency should position designations be reviewed?
5. What strategies should the agency employ to maintain employee engagement in the hybrid work setting?
6. Is the Committee aware of any other agencies or organizations conducting similar evaluations of their hybrid work postures?
  - a. Are there any organizations we could reach out to for benchmarking, or exemplary cases we could research?

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*Presenters: Bill Malyszka, OIRM*

*Discussant: Sabrina Ellis*

2:30pm

**Subcommittee on NSF's Information Technology and Enterprise Architecture**

The subcommittee was charged to prepare a bulleted list of recommendations regarding the direction of IT at NSF, and/or suggestions for leading-edge technologies on the horizon for potential implementation in the next budget year. Presently, these recommendations will inform NSF's Capital Planning and Investment Control (CPIC) Board as they identify those ideas to pursue in the upcoming FY 2025 budget year.

The subcommittee has reviewed the NSF IT Strategy and related Architecture to provide informed recommendations for changes in process, direction, and/or potential investment in new and emerging technologies.

Committee Action/Feedback:

- The BOAC liaisons (Tilak Agerwala and Shawn Brown) submitted the subcommittee's recommendations to the BOAC co-chairs (via NSF BOAC staff) on November 23, 2022, and on behalf of the co-chairs, NSF BOAC staff shared it with the full BOAC as a pre-read for this meeting.
- During the meeting, the BOAC liaison will present a summary of the subcommittee's findings and recommendations and discuss and deliberate the subcommittee's advice.
- At the close of the BOAC's discussion, the BOAC will:
  - Accept the subcommittee's recommendations
  - Reject the subcommittee's recommendations; or
  - Send the subcommittee's recommendations back to the subcommittee for revisions.
- The BOAC may also provide additional written feedback to NSF, including any comments or opinions the BOAC has to offer regarding the report or its findings and recommendations by way of a cover letter to the NSF Designated Federal Officers (DFOs).
- Once the recommendations are accepted, the BOAC will submit them to NSF for the agency to make it publicly available.
- After receiving the recommendations, the NSF DFOs may, verbally or in writing, comment on or respond to them at any duly organized BOAC meeting.

*Presenter and Discussant: Shawn Brown, BOAC*

3:30 pm

**Break**

3:45 pm

**Preparation for Meeting with Karen Marrongelle and Teresa Grancorvitz**

4:00 pm

**Meeting with Karen Marrongelle and Teresa Grancorvitz**

5:00 pm

**Wrap-Up/Adjourn**

NATIONAL SCIENCE FOUNDATION  
Business and Operations Advisory Committee

(Working) Membership List  
(a/o 12/3/21) e-mail account current as of 11/21/2022

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**\* Committee Co-chairs**

## NSF Business and Operations Advisory Committee Member Biographies ~ Fall 2022



**Dr. Tilak Agerwala**

*IBM Emeritus and IBM Vice President (Retired)*

Tilak Agerwala's career has focused on developing advanced research programs and game-changing strategic initiatives and on bringing innovative computing technologies to market. With the rapid "digitalization" of our world and the transformative impact this is having, Tilak is interested in applying big data, modeling, simulation, analytics, and augmented intelligence technologies to world class science and engineering, education, and leadership development. He is an

IBM Emeritus, Executive-in-Residence, Grove School of Engineering, City College of New York, Adjunct Associate Professor, Pace University, New York, Adjunct Professor, National Institute for Advanced Studies, Bangalore, and Member, TKMA Consulting.

In his IBM career, spanning 35 years, Tilak held executive positions in research, strategy, advanced development, marketing, and business development. He was part of and led teams that developed and delivered leadership cyberinfrastructure technologies and supercomputers to industry, academia, and the national labs. As vice president, Systems, (2002 to 2013), he was responsible for IBM's research and advanced technology activities worldwide in future systems hardware and software technologies, including the BlueGene supercomputer. As vice president of Data Centric Systems (2013-2014) his team established a new paradigm for scalable systems leading to the delivery of the powerful supercomputer, Summit, to Oakridge National Lab.

Tilak is a member of the NSF Advisory Committees on Engineering, Advanced Cyber Infrastructure, and Business and Operations. He was the 2019 Dr. S. Radhakrishnan Chair Visiting Professor at the National Institute of Advanced Studies, Bangalore India. He is a Life Fellow of the IEEE and a recipient of the W. Wallace McDowell Award from the IEEE Computer Society. He has given well over a hundred invited presentations, keynotes, and distinguished lectures at conferences, universities and national laboratories worldwide.

He has a Bachelors of Technology in electrical engineering from the Indian Institute of Technology, Kanpur, India and a Ph.D. in electrical engineering from Johns Hopkins University. From 1975-78, he was assistant professor of Electrical Engineering at the University of Texas, Austin.



**Dr. Benjamin L. Brown**

*Director, Facilities Division, Advanced Scientific Computing Research  
U.S. Department of Energy, Office of Science*

Dr. Benjamin (Ben) Brown is the Director of the Facilities Division in the Office of Advanced Scientific Computing Research (ASCR). The Division leads and executes the conception, construction, and operation of DOE's world-leading research supercomputing, data, and networking infrastructure to enable the DOE mission and the national research enterprise. The Division's \$620M (FY 2022)

budget is devoted to operations and major upgrade projects at each of the ASCR Facilities: the Argonne Leadership Computing Facility, the Oak Ridge Leadership Computing Facility, the National Energy Research Supercomputing Center, and the Energy Sciences Network. As Director, Ben leads strategic planning, budget formulation, and operational oversight of these strategic national resources. Ben has extensive knowledge and expertise in policy development and analysis related to large scale scientific research infrastructure and project management. A common focus in each of these roles is the strategic advancement of science and the DOE mission through cross-institutional knowledge-sharing, strategic planning, and partnership development. He is a member of the federal Senior Executive Service.

Immediately prior to joining the Office of Science in 2008, Ben worked on energy and climate policy in the U.S. Senate as an American Association for the Advancement of Science (AAAS) Congressional Fellow. Ben is a physicist with experience working in U.S. government laboratories and academic institutions in

## Member Biographies

both the U.S. and U.K; his research focused on optical control of quantum systems and quantum information science. He received his Ph.D. in optics from the University of Rochester and his bachelor's degree in physics from Harvard University.

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### **Dr. Shawn Brown**

*Director, Pittsburgh Supercomputing Center*

*Vice Chancellor for Research Computing, University of Pittsburgh*

Dr. Shawn T. Brown is the Vice Chancellor for Research Computing at the University of Pittsburgh and the Director of Pittsburgh Supercomputing Center at the Carnegie Mellon University & University of Pittsburgh. Prior to his appointment, Dr. Brown served as the Associate Director of Research

Software Development at the McGill Centre of Integrative Neuroscience at the McGill Neurological Institute. Dr. Brown is an expert on high-performance computing and computational simulation. He has over 25 years of experience in developing software to support the use of high-performance computing for research in areas such as chemistry, bioinformatics, and public health. His research interests are also focused on how agent-based modeling and other computational techniques can be used to provide decision support in public health and chronic disease. He received his Ph.D. in theoretical chemistry from the University of Georgia and his Bachelor of Chemistry at Bethany College.

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### **Dr. Robert M. Dixon**

*Consultant, Higher Education Management*

Robert M. Dixon is a consultant with the Registry for College and University Presidents, which is based in Peabody, MA. Here, he takes on interim leadership assignments at universities that need senior level management while in transition. Among his assignments, he has served as Interim Provost and Vice President for Academic Affairs at Cheyney University and as Vice

President for Academic Affairs at the University of Maine at Fort Kent. He is currently serving as Interim Chair of the Department of Industrial and Systems Engineering at North Carolina A & T State University. During the last decade he has developed research interests in Number Theory. His career has involved dual paths of work in teaching and research, and in administrative leadership positions.

He received a baccalaureate degree in mathematics and physics with high honors from Morehouse College; a Master of Science degree in nuclear physics from Rutgers University; and a doctorate in theoretical nuclear physics from the University of Maryland. Dr. Dixon formerly served as the Dean of the Immediately prior to joining the Office of Science in 2008, Ben worked on energy and climate policy in the U.S. Senate as an American Association for the Advancement of Science (AAAS) Congressional Fellow. Ben is a physicist with experience working in U.S. government laboratories and academic institutions in both the U.S. and U.K; his research focused on optical control of quantum systems and quantum information science. He received his Ph.D. in optics from the University of Rochester and his bachelor's degree in physics from Harvard University.

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## Member Biographies



**Ms. Sabrina Ellis**

*Vice President, Chief Human Resources Officer for New York University*

Sabrina Ellis serves as Vice President, Chief Human Resources Officer for New York University, the largest private university in the United States serving 40,000 students with 18 schools and colleges at five major centers in Manhattan and in sites as diverse as Africa, Asia, Europe, the Middle East and South America.

As the global head of human resources, Sabrina is responsible for Global Compensation, Global Benefits, Employee and Labor Relations, Employee Learning, Talent Acquisition and a host of other programs and services that are fundamental to attracting and retaining more than 26,000 employees globally. With a focus on service quality and operational excellence, under Sabrina's leadership the HR function at NYU continues to advance in meeting the challenges of operating a growing research and teaching enterprise in a global landscape. An important aspect of Sabrina's role is serving as a credible organizational advocate in advancing initiatives that drive improved employee outcomes while also improving results.

Sabrina has served on a number of boards across a diverse group of organizations and non-profits.

Prior to joining NYU in 2016, Sabrina served in various senior-level HR roles among the nation's largest higher educational institutions including Vice President and CHRO at George Washington University, and Assistant Vice President of Human Resources at the City College of New York of the City University of New York. Sabrina earned her bachelor of science degree in Information Systems and master of science degree in HR Management from New York University.



**Mr. Adam Goldberg**

*Director and Executive Architect*

*Dept. of the Treasury, Office of Financial Innovation & Transformation*

Adam Goldberg is the Executive Architect at the Office of Financial Innovation and Transformation (FIT) at the Treasury Department's Bureau of the Fiscal Service. Within FIT, Adam supports financial management transformation initiatives that lead to government-wide efficiencies. He also serves as a

Treasury Advisor to the Minister of Economy and Finance in the Republic of Guinea where he supports the Minister's efforts to improve cash management. Adam joined Treasury after spending six years at the Office of Management and Budget (OMB) as the Chief of the Financial Analysis and Systems Branch where he was responsible for policy development and oversight to implement financial systems, reduce improper payments, and right-size real property. Prior to OMB, he held senior leadership positions at Unisys and Andersen supporting financial management and system improvement efforts at Federal agencies. Adam began his career at the Defense Logistics Agency. Adam holds a BA in Political Science and History from the University of Rochester and an MPA from the Maxwell School of Citizenship and Public Affairs at Syracuse University.

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## Member Biographies



**Mr. Larry Koskinen**  
*Retired Federal Executive*  
*Consultant on Enterprise Risk Management*

Larry Koskinen has served the public interest for more than forty-five years through executive positions in the federal government, commercial professional services firms, and non-profit organizations—both within the United States and abroad. He currently consults with the Government and Public Sector Enterprise Risk Management practice at Deloitte.

He is a retired member of the Federal Senior Executive Service most recently serving as Chief Risk Officer at the United States Department of Housing and Urban Development, where he led HUD's departmental enterprise and fraud risk management programs. During his tenure HUD earned a positive reputation for innovative approaches to the use of advanced data analytics and computational linguistics to identify, understand and remediate program and administrative control weaknesses. In 2021 he was inducted into the Association of Federal Enterprise Risk Management Hall of Fame.

Prior to standing up the Office of the Chief Risk Officer at HUD Koskinen led the Business Transformation Team for NewCore, HUD's administrative shared services partnership with the Treasury Department Administrative Resource Center, and, at the invitation of the United States Office of Management and Budget, led the project team that drafted the government-wide playbook for federal shared services adoption. Prior to joining HUD, he served as an executive in the federal Inspector General community, managing data analytics, finance, human capital, information technology, strategic planning and support operations at the Treasury Inspector General for Tax Administration and the U.S. Postal Service Office of Inspector General. He has been involved in multiple federal-level government reform efforts, notably the Reagan-era Grace Commission, and the Clinton-era National Performance Review.

Koskinen was a Vice President at the non-profit Council for Excellence in Government (programs of which are now absorbed into the non-profit Partnership for Public Service), and a Vice President at the international development consultancy Development Alternatives, Inc. Prior to that he was Director of Administration and Finance at the non-profit Regional Environmental Center for Central and Eastern Europe in Budapest. He was Management Officer for Peace Corps International Operations and also Chief Business Architect. He served as a Peace Corps Volunteer in the Philippines.



**Mr. Robert J. Lavigna**  
*Director, Institute for Public Sector Employee Engagement*

Bob Lavigna has more than 30 years of experience leading government organizations and programs. He is the Director of the *Institute for Public Sector Employee Engagement*, a division of CPS HR Consulting, an independent and self-supporting government agency. The *Institute* helps public-sector and nonprofit organizations measure and improve employee engagement as a key to improving performance and service delivery.

Bob's book, *Engaging Government Employees: Motivate and Inspire Your People to Achieve Superior Performance* (American Management Association), is the first book to focus exclusively on employee engagement in the public sector.

Before joining CPS, Bob served as Assistant Vice Chancellor and Director of HR for the University of Wisconsin. He was also an adjunct Associate Professor in the La Follette School of Public Affairs at Wisconsin.



## Member Biographies

Bob was also Vice President - Research for the Partnership for Public Service, a nonpartisan nonprofit dedicated to revitalizing the public service by inspiring new generations to serve and helping to transform government. He directed research projects, including “Best Places to Work in the Federal Government,” that found new ways for government to attract, develop and retain talent.

Bob also previously served as Director of the state of Wisconsin merit system. He began his career with the U.S. Government Accountability Office (GAO) as an auditor, program evaluator, HR Director of GAO’s largest field office, and Assistant to the Assistant Comptroller General.

Bob is an elected Fellow of the National Academy of Public Administration and was selected as a “Public Official of the Year” by *Governing* magazine. The organizations Bob has led also received innovation awards from the Ford Foundation, Society for Human Resource Management, Council of State Governments, International Public Management Association for HR (IPMA-HR), Urban League, and others.

He is a past president of IPMA-HR, and is also a past national chair of the American Society for Public Administration Section on Personnel and Labor Relations. In addition to his book, Bob writes frequently for professional publications and has authored three book chapters on HR. He has spoken across the U.S. and in Canada, Europe, Asia, South America, the Caribbean, Africa, and the Middle East.

He has a B.A. in Public Affairs from George Washington University, an M.S. in HR from Cornell University and has done Ph.D. work at the University of Wisconsin.



**Ms. Rachel Elizabeth Levinson**  
*Executive Director, National Research Initiatives*  
*Arizona State University*

A twenty five-year veteran of science policy at the national level, Rachel Levinson is the Executive Director of National Research Initiatives for Arizona State University, operating in the university’s Washington, D.C. office. She came to ASU in 2005 as the director of the Government and Industry Liaison Office for the Biodesign Institute at Arizona State University. Levinson heads an office responsible for developing policies and strategies that advance the University’s research agenda.

Prior to coming to ASU, Levinson was with the Office of Science and Technology Policy in the Executive Office of the President of the United States, where she was the assistant director for life sciences, while on detail from the Office of the Director of the National Institutes of Health. In this capacity, she identified science and technology priorities, developed and advocated Administration objectives, and resolved policy issues in life sciences focusing on laboratory biosecurity, bioterrorism preparedness, biotechnology, biomedical research and technology development and transfer.

Levinson began her career as a biologist for the National Cancer Institute within the National Institutes of Health (NIH) and later moved into the policy arena. She advanced to positions at NIH including deputy director of the NIH Office of Recombinant DNA and senior policy advisor in the Office of Technology Transfer.

Levinson earned her B.S in Zoology from the University of Maryland at College Park, and her M.A in Science, Technology and Public Policy from George Washington University, School of Public and International Affairs.

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## Member Biographies



**Mr. David Mayo**  
*Senior Director for Research Administration*  
*California Institute of Technology*

David Mayo is the Senior Director for Research Administration at the California Institute of Technology. In this capacity he is responsible for pre-award and post-award non-financial services supporting \$422M in research awards annually. David is directly responsible for review and interpretation of existing and emerging government policies and regulations, development of institutional policies and procedures, and development and implementation of training programs for campus staff in the area of research administration. Prior to his appointment at Caltech in 2002, David led the pre-award office at the University of California, Santa Barbara, where he worked in research administration in various capacities since 1981.

David has been a member of his professional association, the National Council of University Research Administrators (NCURA) since 1988. David served as NCURA President in 2008, received its *Distinguished Service Award* in 2009, and received NCURA's highest honor in 2012, the *Outstanding Achievement in Research Administration Award*. David has served on numerous NCURA working groups and committees. He is a content creator for NCURA's on-line and in-person training programs, as well as a frequent presenter at its national and regional conferences on topics such as: federal and industry contracting, regulatory compliance, subcontracting, subrecipient monitoring and award management. David currently participates in the Federal Demonstration Partnership and is a member of its Subawards and Contracts Subcommittees. David also participates in the Council on Governmental Relations as a member of its COVID-19 Federal Award Impact Workgroup.



**Dr. Joseph P. Mitchell, III**  
*Director of Strategic Initiatives*  
*National Academy of Public Administration*

Joe Mitchell is Director of Strategic Initiatives at the National Academy of Public Administration—an independent, nonpartisan, and nonprofit organization chartered by the U.S. Congress to improve government performance. In this role, Dr. Mitchell leads the organization's Grand Challenges in Public Administration program, which is identifying and developing ways to address the most challenging issues facing government today. He also advances cutting edge thought leadership and develops partnerships with other good government groups, American universities, and universities in other countries.

Over the course of his career, he has worked with a wide range of federal cabinet departments and agencies to develop higher-performing organizations, implement organizational change, and strengthen human capital and teams. Most recently, he was at the General Services Administration to stand up its new Office of Shared Solutions and Performance Improvement within the Office of Government-wide Policy. As an Associate Director of this new office, he built and led a team to manage multi-functional and cross-agency projects and initiatives in support of the President's Management Agenda. His team established governance and accountability mechanisms for federal Cross-Agency Priority Goals, revamped performance.gov to become more user-friendly and provide additional information to the public, upgraded and expanded the White House Leadership Development Program and CXO Fellows program, provided technical and management support to the federal executive management councils, and established a procurement vehicle that federal agencies can use to acquire commercial software-as-a-service capabilities for their payroll and work schedule/leave management.

Previously, Dr. Mitchell led and managed the National Academy of Public Administration's organizational studies program, overseeing all of its congressionally directed and agency-requested reviews and consulting engagements. He has served as project director for studies of the Government Publishing

## Member Biographies

Office, the U.S. Senate Sergeant at Arms, the U.S. Agency for International Development, the National Park Service's Natural Resource Stewardship and Science Directorate, and the Natural Resources Conservation Service at the U.S. Department of Agriculture.

He holds a Ph.D. from the Virginia Polytechnic Institute and State University, a Master of International Public Policy from the Johns Hopkins University School of Advanced International Studies, a Master of Public Administration from the University of North Carolina at Charlotte, and a B.A. in History from the University of North Carolina at Wilmington. He is a member of Phi Kappa Phi, the national academic honor society; Pi Alpha Alpha, the national honor society for public affairs and administration; and the American Society for Public Administration.

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**Ms. Kim Moreland**  
*Associate Vice Chancellor, Director*  
*University of Wisconsin - Madison*

Kim Moreland is the Associate Vice Chancellor for Research and Sponsored Programs at the University of Wisconsin - Madison. She has an MBA from the University of Kansas.

Kim has served on the Board of Directors of the Council on Governmental Relations and chaired the Costing Policies Committee. She is on the Board of the Federal Demonstration Partnership and serves as chair of the Finance Committee. She is a lecturer for Johns Hopkins University in the Master's degree program in Research Administration.

Kim has served as a member of the National Council of University Research Administrators (NCURA) national and international teaching faculty and the national peer review faculty. She is a recipient of NCURA's national Award for Distinguished Service in Research Administration and the Award for Outstanding Achievement in Research Administration. She is a former president of NCURA.

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**Dr. Robert Nobles**  
*Vice President for Research Administration*  
*Emory University*

Dr. Robert Nobles (DrPH, MPH) serves as the Vice President for Research Administration at Emory University. Within Emory Nobles leads the research administrative and compliance departments including Clinical Research, Environmental Health and Safety, Institutional Animal Care and Use Committee, Institutional Review Board, Research Administration – IT, Research Administration Services, Research Compliance and Regulatory Affairs, Research Grants and Contracts, Sponsored Programs, Strategic Operations and Training and Technology Transfer with more than 450 team members

providing outstanding services that catalyze research and operational excellence. Daily, Nobles and team are responsible for providing the foundation for the research growth that Emory continues to experience while pursuing discovery. As an example of scope, in fiscal year 2020, Emory received nearly \$895 million in total research funding awards. Of the overall total, \$598.9 million came from federal research funding awards, led by the National Institutes of Health with \$526.2 million. Emory researchers submitted 4,750 proposals to sponsors totaling \$1.487 billion in 2021.

As the Vice President for Research Administration, Nobles promotes Emory's research growth through oversight and execution of a strategic direction and effective operations for research across Emory. Nobles works in tandem with senior leaders and faculty to ensure proactive, user-focused customer service; effective, metric-driven processes; and transparent communication, to further new and on-going



## Member Biographies

research initiatives that comply with all regulatory requirements. Nobles also fosters the scholarly work of faculty, facilitates multidisciplinary initiatives, supports innovative technology-transfer and commercialization programs, and strives to increase funding support from all sources, while nurturing positive external relationships.

Nationally, Nobles serves as the Vice Chairperson on Board of Directors for Public Responsibility for Medicine & Research (PRIM&R), the Executive Committee for the Federal Demonstration Partnership (FDP), and a member of the National Science Foundation's (NSF) Advisory Committee for Business and Operations (Committee).

Prior to joining Emory University, Nobles served as the interim Vice Chancellor for Research and Associate Vice Chancellor for Research at the University of Tennessee, Knoxville, (UTK) with a faculty appointment in the Department of Public Health within the College of Education, Health, & Human Sciences. While at UTK, Nobles led efforts and oversaw research growth and compliance activities related to a UTK's quest to become a top 25 public research institution. Nobles also served as a sub-investigator on more than 10 community-based research projects focusing on adolescent health, and chaired national and local committees focusing on enhancing research culture. Before UTK, Nobles served as the research compliance officer and public health faculty member at both Texas A&M University and the University of Texas Health Science Center in Houston. In the public sector, Nobles served as a public health prevention specialist for the Centers for Disease Control and Prevention (CDC) and as a program manager for the state of Florida's Department of Public Health.

Nobles completed his Doctor of Public Health at the University of Texas Health Science Center in Houston with a triple major that included health policy & management, epidemiology, and health economics; and he received his master's in Public Health specializing in epidemiology, and a bachelor's degree in molecular biology from Florida A&M University. Nobles is an avid educator and has taught on the collegiate level since 2001 in the areas of environmental biology, anatomy and physiology, public administration, health policy and management, health care finance, ethics, epidemiology, and responsible conduct of research.



**Dr. Theresa A. Pardo**  
*Associate Vice President for Research*  
*Special Assistant to the President*  
*University at Albany, State University of New York*

Theresa A. Pardo, Ph.D. serves as Associate Vice President for Research and Special Assistant to the President at the University at Albany, State University of New York. She also serves as a Senior Fellow at the Center for Technology in Government (CTG UAlbany), a Full Research Professor in Public Administration and Policy, Rockefeller College and an Affiliate Faculty in Information Science, College of Emergency Preparedness, Homeland Security and Cybersecurity. As Associate Vice President for Research, Dr. Pardo is responsible for the University's research institutes, centers and laboratories and research data governance, among other strategic priorities of the University. As Special Assistant to the President, Dr. Pardo is leading the creation and operation of a novel, interdisciplinary research and collaboration network focused on the achievement of social and health equity.

Dr. Pardo is a Fellow of the National Academy of Public Administration and a past president of the Digital Government Society. She is a founding member of the Global Smart Cities, Smart Government Research Practice Consortium, served as the Chair of Oman's Excellence in E-Government Award Jury in 2015 (first female chair) and 2020, and is an advisor to the E-Government Committee for the China Information Association. Dr. Pardo served as Chair of the Environmental Protection Agency's National Advisory Committee and is a member of the Business and Operations Advisory Committee of the National Science Foundation.

## Member Biographies

Dr. Pardo served as OpenNY Adviser to New York State's Governor Andrew Cuomo, a member of the User Working Group of the NASA Socioeconomic Data and Applications Center (SEDAC), the Steering Committee of the U.S. National Science Foundation funded North East Big Data Innovation Hub and on numerous UN Expert Groups on a range of digital government and sustainable development related topics. She is a member of the Steering Committee for the International Conference on Theory and Practice of Electronic Governance (ICEGOV) organized by the United Nations University – Portugal, and serves on a number of editorial boards for journals in the fields of digital government and public administration including *Government Information Quarterly* and *Public Management Review*. Dr. Pardo is co-developer of the top ranked academic program in *Information Technology Management* offered by the University at Albany and is ranked among the top scholars in her field in terms citations to her published work.

In 2018 and 2019, Dr. Pardo was named a Top 100 Influencer in Digital Government globally. She is a 2015 recipient of *Government Technology Magazine's* Top 25 Doers, Drivers, and Dreamers Award which recognizes individuals throughout the U.S. who exemplify transformative use of technology to improve the way government does business and serves its citizens. Dr Pardo is a recipient of the Digital Government Society's Distinguished Service Award, the University at Albany's Distinguished Alumni Award, the University at Albany's Excellence in Teaching Award, and the Rockefeller College Distinguished Service Award. She holds a doctorate in Information Science from the University at Albany, SUNY.



**Dr. Gregory Parham**  
*Senior Advisor*  
*United States Department of Agriculture*

Dr. Gregory Parham was employed by the United States Department of Agriculture (USDA) for more than 35 years and retired in 2017, after serving as an Assistant Secretary of Agriculture in the Obama administration. During his career, he was the recipient of Presidential Rank Awards for Distinguished and Meritorious Service.

He subsequently completed the Advanced Leadership Initiative Fellowship at Harvard University. Recently, he returned to Federal service as a Senior Advisor at USDA.

Trained as a veterinarian, he began his Federal government career in the U. S. Public Health Service as a Commissioned Corps Officer at the Center for Disease Control in Atlanta, GA. After joining USDA in 1982 he worked for several agencies and became a career member of the Senior Executive Service, serving as the Administrator of the Animal and Plant Health Inspection Service. Dr. Parham is board certified in veterinary preventive medicine and holds a degree in administrative science from the Johns Hopkins University, as well as, degrees in veterinary medicine and microbiology from the Ohio State University.

Dr. Parham has two grown sons and one grandson and resides with his wife of 43 years in Mitchellville, MD.



**Mr. Bill Valdez**  
*President*  
*Global Innovation Associates LLC*

Bill Valdez is a recognized science and technology thought leader who has successfully led science and technology programs in the Federal government and made significant contributions to the effectiveness of government programs to deliver improved mission value to American taxpayers.

## Member Biographies

Bill retired from the Federal government in 2014 and became an adjunct faculty at American University's Key Leadership Program and began consulting with public and private sector organizations to provide strategic advice on a wide ranging set of issues, including science policy and government modernization/improvement.

Most recently, Bill was the President of the Senior Executives Association (SEA), where he focused on strengthening the Senior Executive Service (SES) through legislative and policy initiatives, building a leadership pipeline for the Executive Branch, working with a broad range of good government groups to modernize the civil service, and restoring a public service ethic to the Federal government.

Bill was a co-editor/author of the *Handbook of Federal Government Leadership and Administration: Transforming, Performing, and Innovating in a Complex World*, and was an author of the IBM Center for the Business of Government's recent report, *Preparing the Next Generation of Federal Leaders: Agency-Based Leadership Development Programs*.

His career with the Department of Energy spanned over 20 years and he held the positions of Director, DOE Office of Economic Impact; DOE's Chief Diversity Officer; Director of Business Services, Office of Energy Efficiency and Renewable Energy; and Director of Planning and Analysis, and Director for Workforce Development within DOE's Office of Science. During this time, Bill became expert in the both programmatic and policy development, along with the operational side of the house including HR, procurement and IT.

From 2005-2014 Bill was the Co-Chair of the Science of Science Policy Interagency Working Group. This IWG sparked a government-wide effort to understand the impact of Federal government S&T programs and to develop tools, data and analytical techniques that are in common use at Federal science agencies today. Agencies are also using those tools and data to provide Congress with better budget proposal analyses and to inform taxpayers about the important benefits S&T programs bring to our Nation.

In addition, Bill was a senior advisor at the White House Office of Science and Technology Policy (OSTP) in the 1990s. Bill was awarded the Presidential Rank Award (meritorious) in 2007 and was elected as a Fellow of the American Association for the Advancement of Science (AAAS) in 2006.

Prior to working at DOE, Bill worked as a Senior Project Manager in private industry where he provided strategic planning services to Asian and European multinational corporations. He also was a reporter in Austin, Texas.

Bill received a Bachelor of Arts from the University of Texas and his Master of Arts in International Economics and Energy Policy from the Johns Hopkins School of Advanced International Studies.



**Ms. Barbara E. Walker**

*Director, Strategic Research Initiatives*

*Special Assistant to the Executive Vice Chancellor for Diversity Initiatives*

*UC Santa Barbara*

*Santa Barbara, CA 93106-2150*

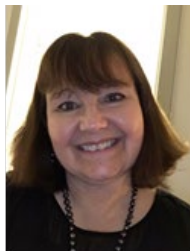
Barbara Endemaño Walker serves as the Director of Strategic Research Initiatives in the Office of Research, and the Special Assistant to the Executive Vice Chancellor for Diversity Initiatives at the University of California Santa Barbara. She is responsible for catalyzing research innovation and excellence through institutional strategic planning, mentoring and professional development activities with faculty members, and a portfolio of diversity and inclusion initiatives related to faculty development and research.

She leads national and state-wide projects that focus on broadening participation in higher education

## Member Biographies

in the context of the research enterprise. Through the Center for Research, Excellence, and Diversity in Team Science (CREDITS), she oversees programs that increase the capacity for diverse science teams and provide tools for university leadership to enact institutional transformation. She also leads the California Alliance for Hispanic-Serving Social Science Advancement (CAHSSA) which strengthens community-based research and public scholarship in the social sciences to align with the Hispanic-serving mission of the majority of institutions of higher education in California. In addition, she collaborates with the Hispanic Association of Colleges and Universities (HACU) on a project to address the challenge of improving Latinx graduate degree attainment in STEM through a national alliance among the community of HSIs.

Endemaño Walker's research and publications focus on broadening participation in higher education and STEM, the political ecology of marine resources, and gender and the environment. Her research has been funded by the National Science Foundation, the MacArthur Foundation, NOAA Sea Grant, the Social Science Research Council, and the Department of Education. Results of her research have been published in *Gender Place and Culture*; the *Journal of Geography and Higher Education*; *Society and Natural Resources*; *PLOS ONE*; and the *Professional Geographer*, among others. She was a founding board member and officer of the National Organization of Research Development Professionals (NORDP), and is a past council member and officer of the Alliance of Hispanic Serving Institution Educators (AHSIE). She received a Ph.D. and M.A. in Geography from UC Berkeley and a B.A. in Anthropology and African Studies from UCLA.



**Ms. Pamela A. Webb**

*Associate Vice President for Research  
University of Minnesota*

Pamela A. Webb is the Associate Vice President for Research at the University of Minnesota. In this capacity, she is responsible for pre-award and post-award non-financial services supporting about \$876M in research awards annually, as well as negotiation of F&A rates, effort reporting, and research policy and education. Prior to her appointment at the University of Minnesota in 2007, Pamela led pre-award and post-award administration in the Office of Sponsored Research at Stanford University. Pamela has been involved in research administration for 37 years, including 12 years at the University of California-Los Angeles as well as UC Santa Barbara, Northwestern University, and Stanford.

Pamela has served as a national officer of her professional association (the National Council of University Research Administrators, NCURA) and served two terms on NCURA's Board of Directors. In 2009, she received NCURA's *Distinguished Service* award, and in 2016, she received NCURA's highest honor, the *Outstanding Achievement in Research Administration Award*.

She has recently completed her term as Chair of the Council of Governmental Relations (COGR) Board of Directors and continues to serve on their Research Compliance and Administration Committee. She has co-chaired a national conference on Electronic Research Administration; serves as a reviewer for NCURA's Peer Review program; and as faculty for their national Leadership Workshop. Pamela previously served on the Federal Demonstration Partnership Executive Committee and currently co-chairs their Foreign Influence Working Group. Pamela is a frequent presenter at the national and regional level, specializing in subawards, policy development and deployment, as well as helping research administrators learn the complex regulatory environment.

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## Member Biographies



**Ms. Maureen E. Wylie**  
*Federal Chief Financial Officer (Retired)*

Maureen Wylie currently serves on the Board of Directors for SquashWise, which focuses on academics, athletics, and opportunity for Baltimore's youth, as a part of the Squash and Education Alliance. She is also a member of the Partnership for Public Service Senior Advisors to Government Executives (SAGE) program.

Ms. Wylie served as Chief Financial Officer of the U.S. Nuclear Regulatory Commission from July 2014 to December 2019, when she retired and ended her nearly 35-year career in the federal government. She was responsible for all budgeting and financial management for the agency, as well as a critical leader for its Project Aim and Transformation efforts.

While at NRC, Ms. Wylie spear headed efforts to create authoritative data not just for financial management, but also for nuclear reactor and materials program management. She conducted multi-year business process change initiatives that transformed how the agency charged fees to licensees and made the application of data analytics possible. As a member of the government-wide Chief Financial Officers' Council, Ms. Wylie served as its representative on the Technology Business Management Executive Steering Committee (ESC), leading the first full adoption of information technology cost transparency in support of that Cross-Agency Priority (CAP) goal. She was also integral to the Financial Data Transformation (ESC), bringing together the Council's data and information efforts associated with several CAP goals and with efforts to improve transparency in budgeting, financial management, and performance goals.

She previously served as the Chief, Resource and Operations Management for the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce from January 2012 through July 2014. She was the principal executive for all matters related to the NOAA's Corporate Services. Prior to that assignment, she also served as NOAA's Chief Financial Officer from 2004. During that period, she led financial management and budgeting for the largest bureau of the Commerce Department as it responded to increasing mission demands in its critical weather, satellites, and fisheries regulatory functions.

Ms. Wylie also served as the G8, Resources Army National Guard (ARNG), responsible for resource management for the Army National Guard from October 2001, capping nearly twenty years as a Department of the Army civilian in a variety of resource management, base realignment and closure, and facilities management roles. Special assignments during this period included stints at HQ, US European Command J-5, the Congressional Research Service, and the House Armed Services Committee Staff.

A recipient of many awards while with the Army, including the Pace Award for leadership in 1994, she received a Distinguished Executive Presidential Rank Award in 2009 and the NOAA Administrator's award in 2011. Ms. Wylie is the recipient of the Association of Government Accountants 2020 Elmer Staats Award, which recognizes a federal leader who exemplifies excellence in government financial management, outstanding leadership, high ethical standards, and innovative management.

She began government service in 1985 as an Army Presidential Management Intern. Ms. Wylie graduated with honors from Rutgers University with a BA in Political Science in 1982, from Yale University with an MA in International Relations in 1984; and was a 1999 Distinguished Graduate of the Industrial College of the Armed Forces, with an MS in National Resource Strategy. She is also a member of the 1997 class of the Defense Leadership and Management Program and a 2003 graduate of the Federal Executive Institute.



Title	Meeting Date	Fiscal Year	Recommendation	NSF Contact(s)	Status	Explanation/Outcome	Theme
IT Enterprise Achitecture (EA) SubCommittee	Spring 2022	FY22	<p>Establish linkage of technology actions and business objectives and demonstrate that the FY21- FY23 technical investments will incrementally and continuously improve the quality, performance, and scalability of IT solutions cost-effectively while meeting strategic objectives</p> <p>1.1 Explain the cohesiveness among the eight “IT portfolios” and make NSF’s IT Strategy more understandable, especially by non-IT experts, e.g., mission and budget people.</p> <p>1.2 Break down Technology Investments with specific operational pain points and expected improvements. For each project, specify target performance metric(s), expected improvement from technology and resource investment. Use state-of-the-art project management and risk assessment tools to measure operational effectiveness and maximize responsiveness to customer needs.</p> <p>1.3 Develop a strategy that includes using natural language processing technologies to continuously assess internal and external customer and developer experience with IT tools, solutions, and services. Gain actionable strategic insight on IT investments. Include deputy assistant directors, office heads, information systems division (including all IT staff and developers, personnel responsible for the grant-making process, and advanced financial systems).</p>	Aronson, Dorothy; Kaplan, Nancy	OPEN - Partially Implemented	<p>1.1 A more detailed explanation of the eight IT portfolios and their relationship to the business objectives will be included in the next version of the IT Strategy Doc and will be dependent on the overall NSF Strategy.</p> <p>1.2 Painpoints and associated metrics will be explored in the next version of the IT Strategy Doc and will be dependent on the overall NSF Strategy.</p> <p>1.3 Currently, NSF gathers feedback from customers in various ways for various projects/systems. In the next iteration of the NSF IT Strategy, these methods and results will be documented. Also, NSF plans to leverage emerging technologies such as chatbots to advance customer service functions.</p>	Information Technology
IT Enterprise Achitecture (EA) SubCommittee	Spring 2022	FY22	<p>Given the direction stated in the strategic plan, review the current IT operational structures for leadership, governance, delivery, operations, and oversight to identify opportunities for streamlining of processes or realignment of responsibilities in order to improve overall visibility, effectiveness and close linkage of organizational capability with business objectives.</p> <p>2.1 Confirm that the accountability for delivery, oversight and budget decisions are balanced and aligned for informed, efficient decision making.</p> <p>2.2 Define specific actions to ensure alignment between goals established by senior leadership and democratized idea submission process. Include any needed communication actions.</p> <p>2.3 Since the individual responsible for strategic IT direction, NSF’s CIO and the individuals responsible for the implementation of technical capabilities and day to day operations are in different parts of the organization, ensure that processes defined support maintaining alignment between strategic goals and project and operational activities.</p> <p>2.4 Identify approaches (e.g., partnerships) that may be leveraged to expand NSF resource and operational capacity in support of agility for resiliency or significant additional demand.</p>	Aronson, Dorothy; Kaplan, Nancy	OPEN - Partially Implemented	<p>2.1 The CIO is in the process of evaluating the alignment and documentation of IT projects and delivery/budget along with their associated roles and responsibilities.</p> <p>2.2 Currently, the CIO has taken steps toward involving OD more deliberately in the budget formulation process. Continued and active OD engagement will be implemented in the following fiscal years.</p> <p>2.3 The CIO has taken steps toward renewed engagement and definition of roles and responsibilities for IT.</p> <p>2.4 The CIO has established robust processes and policies to strengthen engagement between agency leadership, business, and IT through integrated IT Governance. In the case of unplanned demand or a change in priorities, the CIO leverages the integrated governance processes to make effective decisions discussing tradeoffs or seeking increased resources from OD. In addition, the CIO has taken steps toward renewed engagement and definition of roles and responsibilities for the IT workforce in terms of Human Capital planning.</p>	Information Technology

IT Enterprise Architecture (EA) SubCommittee	Spring 2022	FY22	<p>Develop and implement a data centric process that oversees quantifiable results-oriented projects with accountable IT innovations and operations resources to achieve “Speed and Scale”.</p> <p>3.1 Form a “Technology Innovation” team with the responsibility of evaluating the applicability and viability of emerging technology for the goals of NSF. Given the spectrum of emerging technology NSF plans to undertake, their varying levels of maturity, and the uniqueness of NSF organization, it is imperative that a dedicated team under the leadership of the CIO is charged with technology evaluation and is responsible for customizing and approving their operational IT implementation.</p> <p>3.2 Additional recommended responsibilities for “Technology Innovation” team:</p> <p>3.2.1 Bring “data fabric” to the forefront in all central IT implementations to ensure the IT staff in Investment Owners and Working Groups are able to utilize a wide variety of raw data sources, enriched using common patterns for ease of use in low-code/no-code platforms. Specific goals of data fabric are: identify and fill data gaps, automate contextualization, preparation and enrichment of data at the point of ingestion to expedite AI/ML deliveries. This contributes directly to “Speed and Scale”.</p> <p>3.2.2 Evangelize technology initiatives across NSF’s vast network of universities and partner institutions with efforts such as providing guidance, reference architectures, blueprint solutions, mentorship etc. This is critical considering the success of “Speed and Scale” at NSF is intertwined with that of its vast network of universities and partner institutions. Please refer to recommendation #4.3 for additional responsibility of “Technology Innovation” team.</p>	Aronson, Dorothy; Kaplan, Nancy	OPEN - Partially Implemented	<p>3.1 Currently, the Innovation Management Group (IMG) is one of the IT investments that incubates and cultivates innovation across NSF. OD will consider the need and/or desire for an expansion or addition to this capability in the form of a Technology Innovation team.</p> <p>3.2.1 A potential investment request for this technology/tool will be considered in the next fiscal year as part of the Technology Innovation Team.</p> <p>3.2.2 A potential FTE request for this recommendation will be considered in the next fiscal year.</p>	Information Technology
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IT Enterprise Architecture (EA) Subcommittee	Spring 2022	FY22	<p>Provide leadership in the creation, growth, and support of external partnerships, and communities of those partners, that increases the impact from the partners' joint strategic outcomes, especially by streamlining deployment of technology from these partnerships.</p> <p>4.1 Share and support best practices and establish technology deployment networks to accelerate the transition of NSF-funded research results to the U.S. commercial markets. For certain types of research, it may be possible to include an assessment of deployment value within the review process.</p> <p>4.2 Expand the creation and use of scientific data, especially through new models for curating derivative datasets from fundamental research activities, to make publicly funded data broadly available. Data is a new "currency" in US competitiveness. NSF has an opportunity to establish leadership of derivative dataset use through demonstrating their value and encouraging university research partners to explore their deployment.</p> <p>4.3 Collaborate with partners to develop secure, cross-institute IT platforms to meet the requirements of growing and increasingly diverse partnerships and communities. Such a two-way collaboration can result in modern technology at both NSF and its partner institutions. This effort can be particularly valuable in meeting the needs for secure data and information access. For example, moving from authentication by a "home" environment to a focus on the user's individual identity using next-generation secure access, trust, and user validation systems and protocols will be critical. In this effort, NSF may provide guidance, reference architectures, and/or blueprint solutions as part of such a mentorship initiative.</p>	Aronson, Dorothy; Kaplan, Nancy	CLOSED - Fully Implemented	<p>4.1 Currently, the CIO collaborates regularly with the Directorate for Computer &amp; Information Science &amp; Engineering (CISE), The Directorate for Engineering (ENG), Technology Innovation &amp; Partnerships Directorate, and other directorates as appropriate. The CIO will continue leveraging these relationships to expand outside of the Agency. NSF is actively participating in CIO, CDO, and CTO councils, American Council for Technology and Industry Advisory Council, and other public/private forums wherein we share our knowledge across government agencies and industry.</p> <p>4.2 NSF has an established Public Access initiative to increase public access to scientific publications and digital scientific data resulting from research the Foundation funds. (<a href="https://www.nsf.gov/news/special_reports/public_access/">https://www.nsf.gov/news/special_reports/public_access/</a>)</p> <p>4.3 NSF has operationalized several inter-agency partnerships to advance NSF IT. A few examples include NSF Public Access Repository (with DoE), Partnership with NIH to strengthen Research Integrity (SciENCv), Partnership with US Treasury on the Financial Systems innovations, Digital Identity solutions with GSA and InCommon. In addition, NSF shares codes via Code.gov to promote cross-institute IT platforms and shares best practices through the industry-wide communities of practice.</p>	Information Technology
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**Office of Budget, Finance, and Award Management (BFA) Update**  
**B&O Advisory Committee Meeting Fall 2022**  
(as of November 21, 2022)

**Topics**

BFA Senior Staff Changes

CHIPS and Science Act Planning

Program Management Improvement Accountability Act

Government Accountability Office Review of NSF Major Research Equipment and Facilities Construction (MREFC)-funded Projects

Response to Congressional Inquiries on Grant Oversight

Financial Statement Audit

Management Challenges

Agency Financial Report

Advanced Monitoring and Audit Resolution

Upcoming Outreach

Proposal & Award Policies & Procedures Guide

Award Performance Reporting Compliance Challenges

Government Invoicing

Enterprise Risk Management

Strategic Plan

Performance

Budget Summary

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**BFA Senior Staff Changes**

- Front Office
  - *Office Head for BFA/CFO* – In August, Teresa Grancorvitz was appointed as the NSF Deputy Chief Operating Officer, a new position in the Office of the Director (O/D). With Teresa’s move from BFA, Janis Coughlin-Piester was appointed to the Office Head/CFO position. Janis had served as the Deputy Office Head in BFA since July 2018.
  - *Deputy Office Head for BFA* – In November, Jason Bossie started as the new Deputy Office Head for BFA. Mr. Bossie joined NSF from the U.S. Small Business Administration (SBA) where he was the Director of Program Performance, Analysis, and Evaluation. As a senior executive at SBA, he served as the Acting CFO, the agency’s first Evaluation Officer, and the Deputy Performance Improvement Officer. With over 14 years of federal service, Mr. Bossie brings extensive expertise with the federal budget and strategic planning, financial, performance, and data management, program evaluation, and leadership. Thanks to Matt Hawkins and Dale Bell who were detailed to this position from August to November.
- Division of Grants and Agreements
  - Deputy Division Director – In February 2022, Ms. Lisa Scott-Morring joined DGA as the new Deputy Division Director. Lisa came to NSF from the Department of Health and Human Services (HHS),

Agency for Healthcare Research and Quality, where she served as Director, Division of Policy Coordination and Analysis. She brings 20 years of grant management and administration experience from a variety of Federal agencies.

### **CHIPS and Science Act Planning**

In August, the [CHIPS and Science Act of 2022](#) (the Act) was enacted and authorized historic investments to advance the most innovative ideas across all areas of science and engineering and strengthens investments in STEM education and in efforts to broaden participation and build a diverse, inclusive workforce for the jobs of the future. It also included historic investments in science across multiple agencies, creating opportunities to strengthen partnerships in the federal R&D landscape.

In addition to prescribing the mission of the Directorate for Technology, Innovation, and Partnerships that NSF established early this year, the Act authorized, for NSF, \$81 billion over five years (FY 2023 – FY 2027) and appropriated \$200 million over five years for microelectronics workforce education, starting with \$25 million in FY 2023.

To prepare for implementation of this legislation, Foundation staff are analyzing the Act to understand the full impact on NSF's programs and operations, and they are developing comprehensive planning scenarios.

### **Program Management Improvement Accountability Act (PMIAA)**

The focus of Phase 1 PMIAA implementation has been developing the competency model (including necessary proficiency levels) for oversight of the major facility and major acquisition portfolio to support workforce development. Updating NSF internal documentation around the competency model, including position descriptions and performance plans, has been completed for BFA staff positions. Work will continue in FY 2023 to update the documentation for program staff positions in coordination with HRM to complete Phase 1. The PMIAA Course Curriculum Tool has been further developed and was implemented for general use in August 2022. The ability to monitor staff professional development in alignment with their individual training/development plans, is also planned for completion in FY 2023. This will implement the remaining recommendation from the FY 2019 GAO review of MREFC-funded projects ([GAO-19-227](#)). Phase 2 implementation now encompasses the mid-scale research infrastructure portfolio and investigation of the potential benefits of PMIAA for the Centers programs. Phase 2 aligns with OMB's objective of applying PMIAA to grant portfolios as well as NSF's broader plans for workforce development associated with "Renewing NSF." Phase 2 for the mid-scale portfolio began in April 2022 and will be completed in FY 2023. The competency model for mid-scale research infrastructure staff is under final review, and supervisor and staff self-assessment surveys are planned for January 2023. Visioning sessions for the Centers portfolio were conducted in March 2022 and this part of Phase 2, if implemented, will likely extend into FY 2024.

Annual portfolio reviews with OMB are a requirement of PMIAA. In 2022, a cross-agency review group made recommendations to address OIG audit recommendations associated with the major facility divestment stage ([OIG 22-02-006](#)), and the group's recommendations are now being implemented. It is expected that OMB will eventually focus on its PMIAA "maturity model" to assess agency implementation.

*Background:* In December 2016, the PMIAA was signed into law. PMIAA aims to improve program and project management practices within the Federal Government. PMIAA requires that agencies conduct annual portfolio reviews to ensure major programs are being managed effectively, and that OMB conduct reviews of areas identified by GAO as "high risk." OMB's current portfolio focus is on major acquisitions, and NSF currently has no "high risk" portfolios.

## **Government Accountability Office (GAO) Review of NSF MREFC-funded Projects**

The 2021/2022 annual GAO review of projects funded from the Major Research Equipment and Facility Construction (MREFC) account evaluated NSF oversight as follows:

- Comparison of the cost and/or schedule estimates for projects in design with GAO good practices.
- Assessment of design and construction status, including earned value management metrics and the impacts of the COVID-19 pandemic.
- Review of existing awards from the Mid-scale Research Infrastructure Track 2 program and plans for the Antarctic Infrastructure Recapitalization (AIR) programs.

In July 2022, GAO issued its fifth report entitled *National Science Foundation: Continued Cost and Schedule Increases for Major Facilities Projects in Construction* ([GAO-22-105550](#)). Like the 2020 and 2021 GAO reports, the 2022 report made no new recommendations. The report summarized NSF's implementation of past recommendations, current project status, and how NSF followed its guidance when addressing the impacts of COVID-19. Further attention was also given to mid-scale research infrastructure projects funded from the MREFC account as well as the new AIR program. GAO mentioned in their 2022 report that, "NSF agreed with and has taken steps to address the remaining recommendation from GAO's prior report [2018 and 2019] to improve the project management skills of its staff." The PMIAA Course Curriculum Tool was implemented for general use in August 2022. Completion of routine self-assessment and supervisor surveys for Mid-scale RI staff is planned in January 2023 and for new Major Facilities staff later in Q2 FY23.

Annual GAO engagements are required by Congressional report language. The FY 2023 engagement letter was received on November 15<sup>th</sup> and the entrance conference is scheduled for December 5<sup>th</sup>.

## **Response to Congressional Inquiries on Grant Oversight**

NSF has responded to two Congressional inquiries related to grant oversight. In August, NSF responded in writing to a letter from the Senate Committee on Health, Education, Labor, and Pensions; and in November, had the opportunity to brief the Committee about our robust pre- and post-award monitoring program. In October, NSF held a briefing with the House Space, Science, and Technology Committee regarding an NSF recipient, and are responding to follow-up questions from the Committee with a letter highlighting our existing pre- and post-award monitoring program.

## **Financial Statement Audit**

NSF published the audit report on November 15 in the FY 2022 Agency Financial Report (Chapter 2). The audit report reflects an unmodified (clean) opinion, and no material weaknesses or significant deficiencies identified in the internal controls program for financial reporting. An unmodified opinion means the auditor concluded that the financial statements and accompanying notes are presented fairly, in all material respects (in accordance with U.S. Generally Accepted Accounting Principles) and relative to NSF's mission and the stewardship of those resources entrusted to the agency. In addition, NSF continues to comply with the Chief Financial Officer's Act of 1990, as amended, and the Office of Management and Budget requirements.

## **Management Challenges**

Each year, OIG issues a report of its top Management Challenges to the NSF Director and NSB. The FY 2023 Management Challenges identified by OIG are:

- Increasing Diversity in Science & Engineering Education and Employment
- Overseeing the United States Antarctic Program (USAP)
- Overseeing Grants in a Changing Environment
- Managing the Intergovernmental Personnel Act Program

- Overseeing NSF-Funded Research Infrastructure
- Mitigating Threats to Research Security
- Mitigating Threats Posed by the Risk of Cyberattacks
- Addressing Harassment in the Academic Community

The one new challenge OIG added for FY 2023, “Addressing Harassment in the Academic Community,” draws upon recent reports and legislation that identify harassment in science as a pervasive issue affecting participation in STEM. This challenge also notes the NSF-commissioned report that recommended actions to address sexual harassment and assault in the USAP. The remaining FY 2023 OIG Management Challenges are largely continuations of the challenges identified for FY 2022. The *Management Challenges for the National Science Foundation in Fiscal Year 2023* and NSF’s Progress Report on FY 2022 Management Challenges were made public on November 15, 2022 in the [FY 2022 Agency Financial Report - Chapter 3](#) (Appendix 2).

### **Agency Financial Report (AFR)**

NSF’s FY 2022 Agency Financial Report focuses on financial management and accountability and was published on November 15<sup>th</sup>. The AFR is at this link:

[https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf23002](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf23002).

### **Advanced Monitoring and Audit Resolution**

In response to recommendations cited in the OIG internal audit of NSF’s oversight of the EPSCoR program, the Resolution and Advanced Monitoring (RAM) branch, in BFA’s Division for Institution and Award Support (DIAS), partnered with the Division of Grants and Agreements and EPSCoR Program Officials to develop and complete financial stewardship sessions with six EPSCoR recipients between March 16 and April 27, 2022. The sessions were conducted virtually as part of planned Office of Integrative Activities technical site visits and focused on internal controls for subrecipient risk assessment and monitoring, and accounting system functionalities. Also, in response to the OIG audit, DIAS RAM participated in the May 2022 EPSCoR PI Meeting to discuss compliance requirements related to subawards, participant support costs, and other areas relevant to EPSCoR awards. Broader outreach activities in June 2022 included a session at the Spring NSF Grants Conference and a Policy Office webinar on subrecipient assessment monitoring. Both sessions were well attended by highly engaged representatives from the research administration community. Finally, DIAS RAM authored the article, “*Successful Collaborations with Subrecipients*” for publication in the August 2022 issue of NCURA magazine.

For FY 2022, DIAS RAM resolved and closed 114 Single and OIG audit reports (including 17 OIG audits), sustaining \$3.51 million of \$4.02 million (or 87%) in costs questioned.

### **Upcoming Outreach**

- The Policy Office is ensuring broad communications to the research community about the changes to the [Proposal and Award Policies and Procedures Guide](#) (PAPPG) (NSF 23-1), as well as the transition from FastLane to Research.gov. The Policy Office is participating in numerous outreach opportunities this fall with research administration professional society meetings to highlight the revisions to the PAPPG as well as the transition to Research.gov in concert with the January 30, 2023, effective date of the revised PAPPG. The Policy Office held the fall virtual NSF Grants Conference the week of November 14, 2022.
- The Large Facilities Office successfully completed a hybrid in-person and virtual Research Infrastructure Workshop in Boulder, CO in September 2022, the first workshop since the start of the pandemic. The four-day event included 40 sessions and was widely attended, including nearly 200 in-person and over 150 virtual attendees with diverse skillsets, such as business professionals,

operations managers, project managers, scientists, engineers, and safety, cyber, and education and public outreach experts. Attendees represented most of our major and mid-scale facilities. Presentations and video recordings from the most recent workshop, as well as all recent research infrastructure webinars are available on-demand on the [Research Infrastructure Outreach website](#).

### **Proposal & Award Policies & Procedures Guide (PAPPG)**

The [revised PAPPG](#) was issued on October 26, 2022 and becomes effective for proposals submitted or due on or after January 30, 2023. The Policy Office presented to the research community on the revisions at the NSF Grants Conference on November 17, 2022. The PAPPG includes several critical updates including:

- Implementation of a new certification requirement for Responsible and Ethical Conduct of Research (RECR) for proposals submitted on or after July 31, 2023. The revised certification requires that RECR training provided to undergraduates, graduate students, postdoctoral researchers, faculty, and other senior personnel. The training also must include mentor training and mentorship.
- Addition of new sections on disclosures and research security as part of the Foundation's implementation of the National Security Presidential Memorandum 33 (NSPM-33) Implementation Guidance. In addition, new certifications were added for both senior personnel and the organization to comply with the 2021 National Defense Authorization Act NDAA, Section 223 regarding disclosure information.
- Introduction of the Concept Outline as a new submission type. Concept Outlines are required for Planning, RAPID, EAGER, RAISE funding types, and may be required in specific program solicitations. They also may be submitted at any time by PIs seeking feedback prior to developing a new proposal.
- Revision of NSF eligibility categories to clarify eligibility requirements of For-Profit Organizations and State and local governments. New coverage on the eligibility of Tribal Governments also has been included.
- New certification requirement regarding safe and inclusive working environments for off-campus and off-site research. This new certification requires that each proposal that proposes to conduct research off-campus or off-site has a plan in place for that proposal regarding safe and inclusive working environments. The plan must identify steps the proposing organization will take to nurture an inclusive off-campus or off-site working environment and should also consider communications within the proposing team and to the organization. The plan is not submitted to NSF as part of the proposal.
- Implementation of the Build America, Buy America statutes. This update includes the information already implemented in May 2022 via revised award terms and conditions and requires awardees implement the requirement in its procurements and to flow down the term and condition to all subawards and contracts.
- Transition from FastLane to Research.gov. This update completes the Foundation's commitment first identified via Important Notice 147 to implement Research.gov as the replacement for FastLane for proposal preparation and submission. FastLane will cease to exist for proposal submission after January 27, 2023.

These and other revisions are described at the beginning of the PAPPG in the [Summary of Changes](#).

### **Award Performance Reporting Compliance Challenges**

In March 2021, the Business & Operations Advisory Committee (BOAC) discussed issues related to late or missing annual and final project reports from awardee organizations, which NSF requires, and the implications of a new requirement in 2 CFR §200.344 specifying that, "The recipient must submit, no later than 120 calendar days after the end date of the period of performance, all financial, performance, and other reports as required by...the award." An awardee organization that fails to comply with a final report within one year of the period of performance end date is reported in Federal Awardee

Performance and Integrity Information System (FAPIS), OMB-designated integrity and performance system.

BOAC provided substantive feedback and recommended creation of a working group dedicated to improving reporting compliance. In April 2021, NSF established the Project Reporting Implementation Team (PRIT) to identify and develop changes NSF could apply to improve project reporting compliance. PRIT is an NSF-wide collaboration that brings together expertise in policy, NSF business systems, award monitoring, and project reporting to improve compliance with project reporting requirements. PRIT actions so far include:

- Holding a listening session with FDP institution representatives of the University of California system.
- Facilitating the issuance of ["Important Notice No. 148 to the Presidents of Universities and Colleges and Heads of Other National Science Foundation Grantee Organizations"](#) in December 2021, on "Improving Compliance with NSF Project Reporting Requirements" and the implications of new FAPIS reporting requirements.
- Developing procedures to implement the 2 CFR 200 requirement (FAPIS procedures) for late project reporting at grant closeout.
- Develop outreach materials on FAPIS requirements at closeout and reporting compliance to circulate with the NSF Grants Conference, FDP, ERA Forum, NCURA, SRA, and the NSF IG Stewardship Collaborative.
- Providing clarifying language for the internal NSF Proposal and Award Manual (PAM) and the external NSF Proposal & Award Policies & Procedures Guide (PAPPG) 23-1.
- Planning the Award Cash Management Service (ACMS) Threshold Pilot to incentivize compliance with NSF project reporting requirements.
- Improving wording for project reporting email notifications and tip sheets.
- Tracking project reporting compliance metrics.

Since PRIT began its efforts, NSF continues to monitor closely reporting submission. The PRIT also targeted the top 20 organizations with the highest number of severely overdue project reports with direct outreach, resulting in a substantial increase in compliance from these institutions. Since December 2021, Top 20 organizations have submitted nearly 1,000 reports, of which 700 were at least 120 days overdue. The PRIT will continue to develop new prevention and enforcement procedures, and to enhance NSF systems for increased project reporting compliance. To date, no awardee organizations have been reported in FAPIS.

### **Government Invoicing (G-Invoicing)**

NSF implemented G-Invoicing for General Terms and Conditions in FY 2022 and began using G-Invoicing for Orders in October. Treasury's new G-Invoicing system will serve as the front-end application for users to originate and manage interagency agreements (IAAs) and will store transactional data generated over the full lifecycle of the agreements. NSF will use G-Invoicing and iTRAK to record and interface IAA data between the two applications to address challenges with accounting, reporting, and monitoring IAAs by providing a common platform between federal partners.

### **Enterprise Risk Management (ERM)**

In FY 2022, NSF continued to mature its ERM capability consistent with the agency's goal to enhance performance of its mission. As part of NSF's ERM governance, BFA met with the agency's CXO Council in September 2022. During the meeting, the Deputy CFO's office provided an update on NSF's ERM and internal control efforts that support the Director's Annual Assurance Statement. The Council also



considered changes to the Agency's risk appetite and related risk profiles, including the opportunity side of risks.

### **Strategic Plan**

NSF released its FY 2022-2026 Strategic Plan in March 2022, [\*Leading the Word in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research\*](#). The Plan lays out four Strategic Goals, the first three of which support the NSF's vision through advancing the frontiers of research, delivering the benefits of research to society, ensuring accessibility and inclusivity, developing STEM talent and securing global leadership in science and engineering. The fourth goal emphasizes the need for NSF to strengthen its operations at speed and scale to meet these Strategic Goals.

- Goal 1, Empower: Empower STEM talent to fully participate in science and engineering, aims to accelerate the advancement of discovery and learning and, in a world in which work is increasingly reliant upon scientific and technological skills, ensure that all citizens share in the benefits that flow from research.
- Goal 2, Discover: Create new knowledge about our universe, our world and ourselves, aims to advance knowledge through investments in ideas, people, and infrastructure, and to advance the practice of research.
- Goal 3, Impact: Benefit society by translating knowledge into solutions, focuses on delivering benefits from research by advancing discovery and accelerating innovation that address societal challenges, as well as cultivating a global S&E community based on shared values and strategic cooperation.
- Goal 4 Excel: Excel at NSF operations and management, includes strategies to attract, retain, and empower a talented and diverse workforce and continually to improve agency operations.

### **Performance**

#### Agency Priority Goal

NSF set an FY 2022-2023 Agency Priority Goal to "Increase representation in the scientific enterprise," targeting a 10 percent increase in (1) the number and proportion of proposals with principal investigators from groups underrepresented in STEM and (2) the number and proportion of proposals from underserved institutions. Quarterly progress reports are posted on [performance.gov](https://www.nsf.gov/performance). The next report, reflecting progress through the end of FY 2022, will be released in mid-January.

Accomplishments to date include raising awareness and gathering feedback throughout the agency through presentations and listening sessions, collecting engagement resources from Directorates and Offices, examining diversity considerations in panel composition, developing an APG dashboard for internal audiences, and inclusion of DEIA language in NSF's PAPPG.

## Budget Summary

### Update on the American Rescue Plan Supplemental Appropriation

In FY 2021, NSF received \$600 million in the American Rescue Plan Act, [P.L. 117-2](#) (ARP Act), supplemental appropriation, to fund or extend new and existing research grants, cooperative agreements, scholarships, fellowships, apprenticeships, and related administrative expenses to prevent, prepare for, and respond to the coronavirus through September 30, 2022. This enabled NSF to provide additional support to those individuals and institutions most strongly affected by the pandemic as well as those at vulnerable transition points in their research careers.

FY 2021 – FY 2022 American Rescue Plan Awards and Obligations	
Number of Awards	1,662
Number of Institutions	452
Total Obligations (in millions)	\$600
R&RA	\$471
EDU (Formerly EHR)	\$61
MREFC	\$55
AOAM	\$12

Totals may not add due to rounding

### FY 2022 Update

FY 2022 year-end close activities concluded in November 2022, and Budget's internal database was locked. Obligation actuals by account and organization will be published in the FY 2024 Budget.

### FY 2023 Update

- The FY 2023 Budget Request is \$10.492 billion, or +18.7% over FY 2022 Enacted.
- The House mark is \$9.631 billion, or +9% above FY 2022 Enacted and -8.2% below FY 2023 Request.
- The Senate mark is \$10.334 billion, or 17% above FY 2022 Enacted and -1.5% below FY 2023 Request.
- NSF is operating under a continuing resolution through December 16, 2022.
- BD is doing preliminary work on the FY 2023 Current Plan letter and supporting tables, preparing for the passage of the appropriation.

### FY 2024 Update

- NSF FY 2024 OMB Budget was submitted on September 12, 2022. Briefings with OMB continued throughout the fall.
- Passback is expected from OMB after Thanksgiving and Settlement in December.
- NSF FY 2024 Congressional Request is to be submitted February 6, 2023.

FY 2025 Planning - expected to begin in in late winter/early spring 2023.



OIRM Update  
for the B&O Advisory Committee Meeting (Fall 2022)

Accolades and Accomplishments

- The National Science Foundation (NSF) ranked **2nd** among 25 midsized agencies in the 2021 Federal Employee Viewpoint Survey. NSF achieved the **2nd** highest score across all 75 ranked agencies.
- NSF human capital services were ranked **number 1** in customer satisfaction overall and in staffing, human capital, and training and development across all 24 Chief Financial Officers Act agencies in the 2022 General Services Administration Customer Satisfaction Survey. NSF IT services were ranked **number 1** overall and **number 1** in 4 of the 5 IT categories and **number 2** in the fifth IT category among the 24 agencies surveyed.
- The Division of Human Resource Management (HRM) was singled out by the Chief Human Capital Officers Council to share best practices for NSF's approach to transitioning to a hybrid work environment. The Office of Personnel Management and the Small Business Administration praised NSF's Future Works website, position assessment process, Supervisor Listening Sessions, and mechanism for staff to share anonymous feedback throughout the process.

Reentry to NSF Headquarters and Moving Towards a Hybrid Workplace

- **Hybrid Workforce:** HRM positioned the Foundation to face the future of work by providing new workplace flexibilities and ways to both collaborate and communicate with one another through human-centered design. This included clearly defining remote work, telework, and work schedule flexibilities, a new Telework and Work Schedules System, the establishment of the Team Norms Program, and the Student Loan Repayment Program.
- **New and Emerging Features and Technologies** further improved NSF staff's experience by expanding options to resolve IT issues, complete IT service-related actions more efficiently, simplify and make the IT service process easier, and seamlessly work and meet with colleagues, regardless of work location.
  - The Division of Information Systems (DIS), in partnership with the Division of Administrative Services (DAS), evaluated new meeting technologies in the market and purchased and installed **12 Neat Bars and 16 Neat Bar Pros** in conference rooms at NSF headquarters for staff use. The Neat Bar is an all-in-one device with built-in camera, microphone, and speaker for small meeting and conference rooms. The Neat Bar Pro has the same capabilities as the standard Neat Bar but is designed for medium- to large-sized conference rooms. The Neat Bar and Neat Bar Pro camera automatically follows participants in the room and provides a group and up-close participant images (much like the Zoom participant images) during meetings, helping build a sense of connection between virtual and in-room participants. Each device was paired with dual monitors for the best experience and a Zoom Room license to simplify adding the room to a meeting.
  - DIS purchased and distributed a **Meeting Owl Pro camera system**, a portable, all-in-one USB web camera most effective in a small team room, to each Directorate.

- **IT Help Central's (ITHC) Smart Lockers** allow for easy retrieval or drop off of assigned NSF or loaner equipment without the need to wait. The Smart Lockers automatically track usage and let ITHC know when an item has been retrieved. In addition, the lockers are connected to power, so devices are fully charged when retrieved.
  - **A new IT Help Desk appointment scheduler in ServiceNow** allows staff to manage their in-person ITHC appointments online.
  - **The new enterprise Virtual Whiteboard, Lucidspark**, further expands NSF's collaborative tools. The platform was recently migrated to a government-certified platform and added a new product, Lucidchart, a diagramming tool to create flowcharts and build products such as organization charts and network diagrams.
  - **Microsoft Teams (MS Teams) Audio Only (Dial-In) Feature** – DIS launched a dial-in only feature in MS Teams Meetings recently made available by Microsoft. Staff now have the option to call-in with a telephone number or log in to a video conference meeting.
  - DIS, in partnership with the American Federation of Government Employees (AFGE) 3403, released a new **bulletin board feature** in MS Teams and launched the NSF Carpool Bulletin Board, to support carpool coordination as staff return to the office.
  - **Hands-on training** for conference rooms and Lucidspark as well as **Technology Tips, Cheat Sheets and Guides** covering a wide variety of topics are available to staff in a central website. Topics include conference room equipment, Zoom, Teams, Lucidspark, hybrid meeting best practices, and more.
- The implementation of remote work and overall increased telework have resulted in significant changes in the number of personnel in the building on any given workday. To support this new paradigm, DAS instituted a **hoteling and daily parking reservation system** for employees. Prior to this implementation, the only parking option available for employees was a fixed fee monthly parking. Employees may now select both their hoteling workstation and their desired daily parking spot using a single graphical interface. The daily parking option provides an economical alternative to employees who come to the building less than 15 times a month while still providing the same level of accessibility and security as monthly parking. The agency currently has a limited number of hoteling spaces available, which may increase as NSF further reimagines space in a collaborative and hybrid work environment to support the mission.

### **Innovations in Human Resource Management**

- In August, HRM implemented a new, streamlined approach to customer service using the **HR Business Partner and Branch Centers of Excellence model**. These new approaches replace the previous Service Team model in response to the feedback provided to HRM and remains one of HRM's top three priorities for FY23.
- The **Telework and Work Schedule System (TAWSS)** was updated and moved to the cloud-based Employee Service Center to streamline and update the overall process employees use to submit telework, remote work, and work schedule requests in accordance with the new telework and work schedule policies.

- HRM led the transition to a **new timekeeping, attendance, and payroll system, Quicktime.**
- The Foundation will be retiring the current system of record for staffing and recruitment, Monster, and replacing it with the Office of Personnel Management's (OPM's) **USA Staffing.** USA Staffing will provide a better user experience for both the hiring manager and applicant. Hiring managers will be able to see the status of their requested actions in real-time. This system comes with a library of user guides, videos, and OPM-supported assistance. HRM is using this opportunity to evaluate current processes and products for areas for improvement to make the benefits of this new system even greater for customers.
- The **Administrative Position Description Modernization** work group was created in response to feedback from the administrative workforce to focus on standardizing administrative/non-scientific positions throughout the Foundation. This effort will take thousands of position descriptions currently in existence (though not used) and distill them into a library of standardized position descriptions accessible to hiring managers and employees. It will also establish guidance and governance for classification and position management responsibilities.
- HRM drafted agency-wide **core and leadership competencies** in alignment with best practices and collaboration with stakeholders across the agency. These competencies will serve as the foundation for NSF-wide competency models, with position-specific competencies to be developed in 2023. The competencies will be used throughout the full human capital lifecycle to inform recruitment, training and development, and strategic workforce planning processes.
- HRM's **Talent Team** provides hiring managers and search committees with the tools to identify the vital competencies needed to successfully perform the duties of a position and, thereby, find the best quality candidate. The Talent Team works with customers to develop custom selection tools and rating guides, including structured interview questions, writing assessments, work samples and simulations, and subject matter expert resume reviews, and other resources.
- The NSF Academy created an **Idea Sharing Series** as a space for staff to connect, share experiences, and learn from one another. The offerings have included "Leading and Facilitating Hybrid Meetings," "Being an Inclusive Colleague in a Hybrid Environment," and "Making Hybrid Work Work."
- HRM made important updates to NSF's **Personnel Policies and Collective Bargaining Agreement (CBA).** Highlights include:
  - Successfully completing mid-term CBA updates in partnership with AFGE 3403, negotiating **Performance Management, Learning and Development, Telework, Work Schedules, Student Loan Repayment Program, and Alternative Dispute Resolution.**
  - Updating Personnel Manual (PER) chapters to align with mid-term CBA articles.
  - Updating/enhancing flexibilities within the **Excepted Service** PER Chapter (in support of the Directorate for Technology, Innovation and Partnership's unique mission requirements).

### **Significant Advances in Administrative Services**

- In partnership with DIS, DAS continued to **modernize and automate functions** using robotic process automation and other technology solutions, including:
  - Adding functionality to ConcurGov for NSF travelers to split reimbursement between

- their personal bank account and government travel cards, expediting reimbursements.
  - Automating the creation and distribution of monthly unsubmitted travel voucher reports to NSF leadership.
  - Automating the creation new ConcurGov traveler profiles for staff.
- **Implementation of the Federally Mandated Controlled Unclassified Information (CUI) Program**
  - NSF implemented a policy to mark documents and correspondence containing CUI, as mandated by the National Archives and Records Administration guidelines and Executive Order 13556, Controlled Unclassified Information.
  - DAS is developing an external website to better communicate these marking requirements to academic institutions and other community partners. The webpage will communicate CUI program contacts and offer training and other resources. The target timeframe to publish the webpage is in the first quarter of 2023.
- Given the reduced population in the building, the agency is no longer able to rely upon the Facility Emergency Response Team (FERT) volunteers. DAS is adapting to this new reality by **realigning the responsibilities of the Protective Security Officers** to assist during emergencies and evacuations. Further, DAS is implementing more **interactive emergency notification features**, which will allow staff to signal if they require assistance during an evacuation or emergency.
- DAS helped process over 300 federally owned **vehicle title transfers** to large facilities recipients. These vehicles are now treated as recipient-titled property and no longer considered part of the NSF fleet although the government does retain conditional interest in the vehicles. These transfers reduce the overall NSF federally owned vehicle fleet by more than half, significantly reducing the administrative burden for annual vehicle data reporting.

### **Enhancements in Information Technology**

- NSF is on track to **transition Proposal Preparation and Submission to Research.gov** and decommission FastLane Proposal Preparation and Submission in late January. All functionality for the transition is deployed, and more than 93% of NSF's active funding opportunities are available only in Research.gov. Proposal submissions via Research.gov have topped 85%.
- In alignment with DIS's move to the cloud to improve delivery velocity, increase application scalability and resilience, and decrease application dependency on NSF's physical location, DIS migrated the primary databases for NSF business applications as well as most NSF's applications from on-site at the NSF building to the cloud using Amazon Web Services.
- DIS enabled **Login.gov** as an option for the research community to sign in to Research.gov, providing multi-factor authentication and aligning Research.gov to best practices.
- In accordance with a federal government-wide mandate, NSF is now using the **SAM.gov** generated Unique Entity Identifier (UEI) instead of the Dun & Bradstreet (D&B) issued Data

Universal Numbering System (DUNS) number as the primary means of entity identification for federal awards in NSF's systems.

- DIS continued **expansion of the beta.nsf.gov website**, adding functionality to share more engaging NSF News and Events; tools to spotlight topics and enrich them with videos, images, and other media; and improved site search capability.
- DIS **federated NSF's MS Teams** with 14 agencies, enabling NSF staff to easily chat and meet with colleagues at other agencies.
- To use more modern authentication mechanisms that provide more secure access to Office 365 tools on mobile devices, DIS transitioned the agency's Mobile Device Management (MDM) capability (VMware AirWatch) to the **Microsoft Intune product**.
- NSF partnered with NASA to complete a successful pilot of **NASA's eBooks system** and determined this system is a viable replacement for the legacy NSF Interactive Panel System. DIS procured the required team and has begun implementation of a new **Proposal Evaluation System (PES)** based on NASA eBooks. A Beta release is planned for later in FY 2023.
- In support of NSF's strategic plan, DIS made several changes to Research.gov Account Management to help NSF understand more about people who interact with NSF. Research.gov Account Management establishes a **single unique identity (NSF ID)** that persists across all NSF business applications for each member of the external research community throughout their career. DIS improved the demographic data collection by modifying the workflow for existing and new PIs and added Graduate Research Fellowship Program applicants and fellows. NSF is now working to integrate panel reviewers and incorporate areas of expertise in users' profiles.
- DIS, in partnership with the Innovation Management Group, launched a new internal portal, called **Hopper**, named for Admiral Grace Hopper, a pioneering computer scientist and mathematician. The portal is intended to be the central portal to publish and incubate local innovator developed tools while reducing duplication and fostering collaboration among staff.
- DIS continued to provide enhanced data management, analytics platforms, and reporting capabilities to NSF and the public. For NSF, a new **NSF By the Numbers Dashboard** is now available that includes results for counts of awards funded, institutions funded, funding rate, proposals evaluated, and award obligations by fiscal year. It also includes graphs and other visuals displaying:
  - A multi-year view based on FY 2011 – FY 2022 for all measures;
  - A geographical map which allows users to toggle between map view and bar graph view of States, Congressional Districts, and Institutions, and provides Award details for each Institution;
  - Metrics at the selected Directorate level;
  - Detailed reports for Awards; and
  - Trendline comparisons for all metrics.

DIS also released an **externally facing** NSF by the Numbers Dashboard to the public and external audiences such as Congress members and their staffs through beta.nsf.gov.

- DIS expanded the use of **ServiceNow** to modernize customer service and enhance IT and HR services with the release of a new portal called the **Employee Service Center (ESC)**, a 'one stop shop' for IT and HR services. New IT services launched with the ESC included a chatbot, online self-service scheduler for ITHC appointments, knowledge management resources including articles and tips, and access to NSF's password management tool. In partnership with HRM, DIS released a new IPA management system, new TAWSS, and centralized requests for many HR services including Leave Donation, Onboarding, Pre-tax Parking, and Leave Restoration all located on the ESC. DIS also used ServiceNow to build and deploy the Vaccination Status and Reporting System, enabling NSF to respond to federal mandates related to vaccination reporting, exception processing and the screening testing program.
- DIS continued expansion of **robotic process automation (RPA)**. Automations are now drafting meeting notices and minutes for Federal Advisory Committee Act (FACA) meetings, automating the creation of draft annual FACA reports, notifying administrative staff when proposals in eJacket are ready for administrative or financial review, creating test data, performing automated server validations, and performing automated validations of SharePoint functionality. In addition, other organizations across NSF use the RPA services to automate manual processes on their own.



# NSF Budget Update

December 12, 2022

*B&O Advisory Committee*

Caitlyn Fife, Division  
Director, BFA/Budget  
Division

# TOPICS

- Budget Context
  - NSF Budget Over the Years
  - NSF Enacted Funding levels FY 2013-2022
- Supplemental Appropriations/Authorizations
  - American Rescue Plan Act – Year 2
  - CHIPS and Science Act
- Current Year Update
  - FY 2023 Request
  - FY 2023 Administration Priorities
- FY 2024 Planning
  - Where are we in the process?
  - What's next?

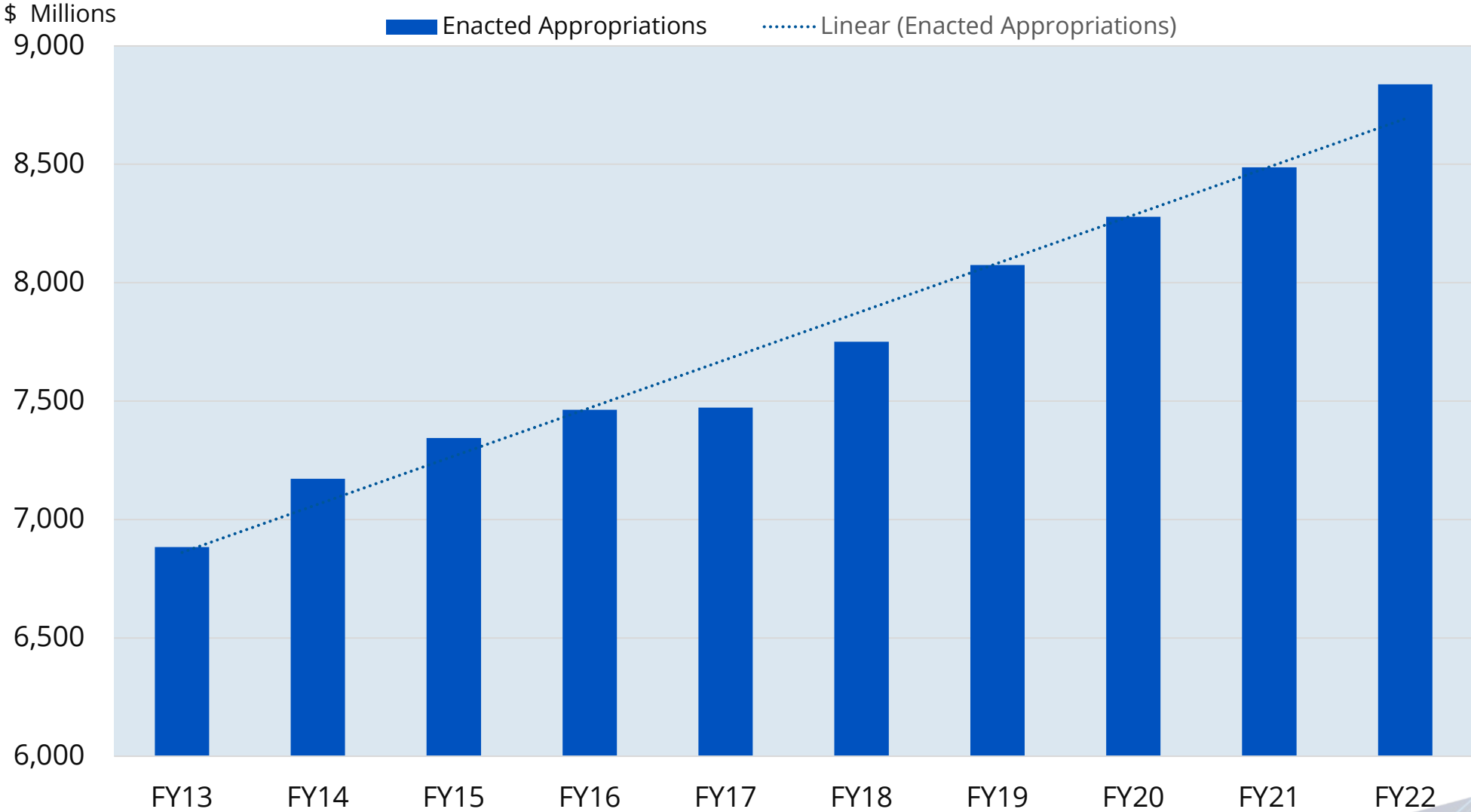




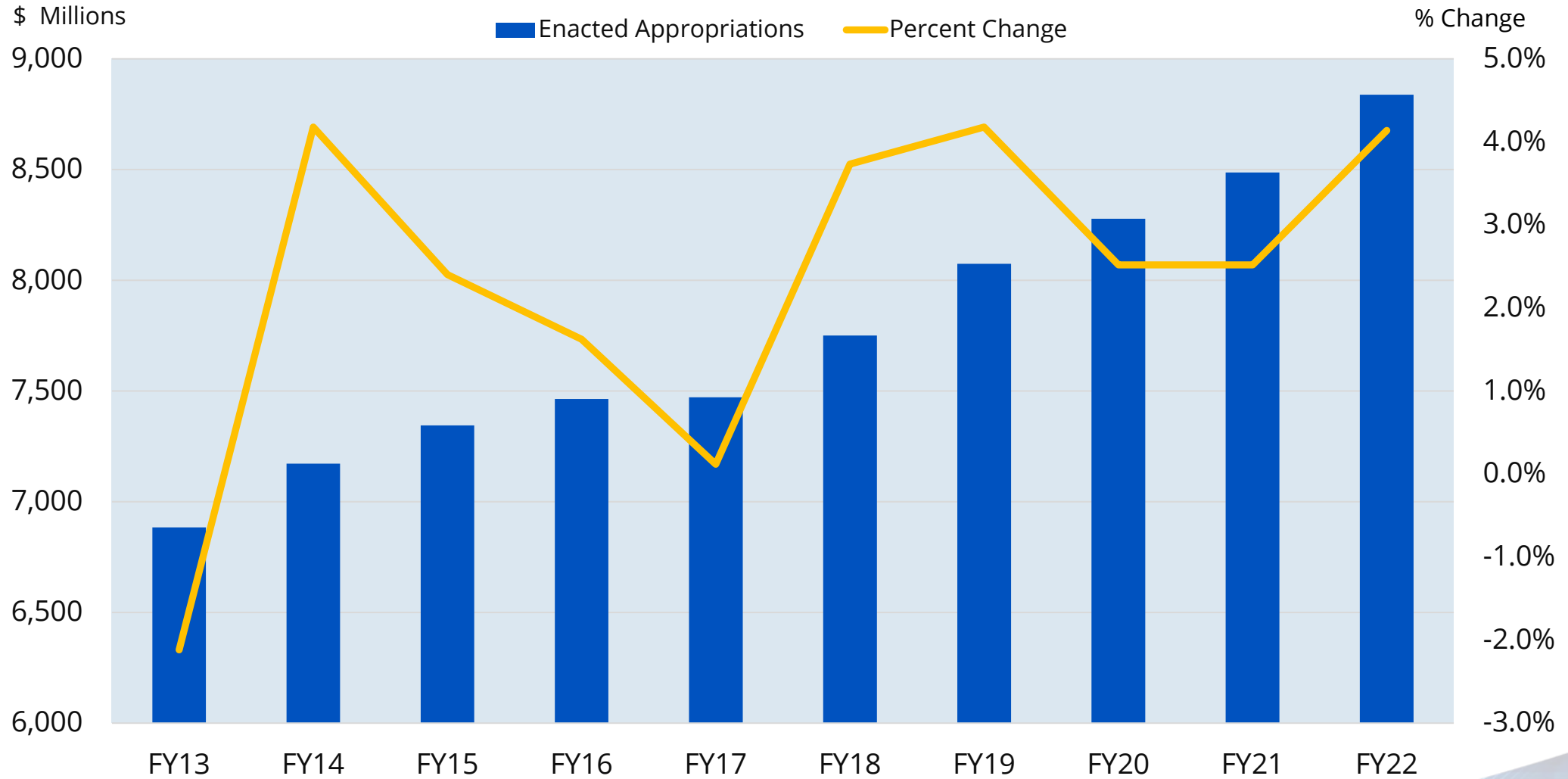
# Budget Context



# NSF BUDGETS OVER THE YEARS



# NSF ENACTED FUNDING LEVELS



# Supplemental Appropriations/Authorizations



# AMERICAN RESCUE PLAN ACT

FY 2021 - FY 2022 ARP Data	
Number of Awards	1,662
Number of Institutions	452
Total Obligations (in millions)	\$600
<i>R&amp;RA</i>	<i>\$471</i>
<i>EDU (formerly EHR)</i>	<i>\$61</i>
<i>MREFC</i>	<i>\$55</i>
<i>AOAM</i>	<i>\$12</i>

Totals may not add due to rounding

- Signed into law March 11, 2021.
- Provided \$600M to fund or extend new and existing research grants, cooperative agreements, scholarships, fellowships, apprenticeships, and related administrative expenses to prevent, prepare for, and respond to the coronavirus.
- Available through September 2022.



# CHIPS AND SCIENCE ACT

- Signed into law on August 9, 2022.
- Authorizes \$81 billion over five years (FY 2023 – FY 2027).
- Appropriates \$200 million over five years for microelectronics workforce education, starting with \$25 million in FY 2023.
- Addresses topics such as research security and directs support for critical research and research-enabling infrastructure.
- Includes historic investments in science across multiple agencies, creating opportunities to strengthen partnerships in the federal R&D landscape.



# Current Year Update

# FY 2023 REQUEST

- NSF is operating under a continuing resolution through December 16, 2022.
- FY 2023 Budget Request is \$10.492 billion, or +18.7% over FY 2022 Enacted.
- The House mark is \$9.631 billion, or +9% above FY 2022 Enacted and -8.2% below FY 2023 Request.
- The Senate mark is \$10.334 billion, or +17% above FY 2022 Enacted and -1.5% below FY 2023 Request.

(Dollars in Millions)

Account	FY 2022 Enacted	FY 2023 Request <sup>1</sup>	FY 2023 House Mark <sup>1</sup>	FY 2023 Senate Mark <sup>1</sup>
Research & Related Activities	\$7,159	\$8,426	\$7,706	\$8,322
STEM Education or EDU (formerly EHR)	1,006	1,377	1,250	1,327
Major Res. Equip. & Fac. Construction	249	187	187	187
Agency Operations & Award Mgmt	400	473	460	473
Office of Inspector General	19	23	23	23
National Science Board	5	5	5	5
<b>Total</b>	<b>\$8,838</b>	<b>\$10,492</b>	<b>\$9,631</b>	<b>\$10,338</b>

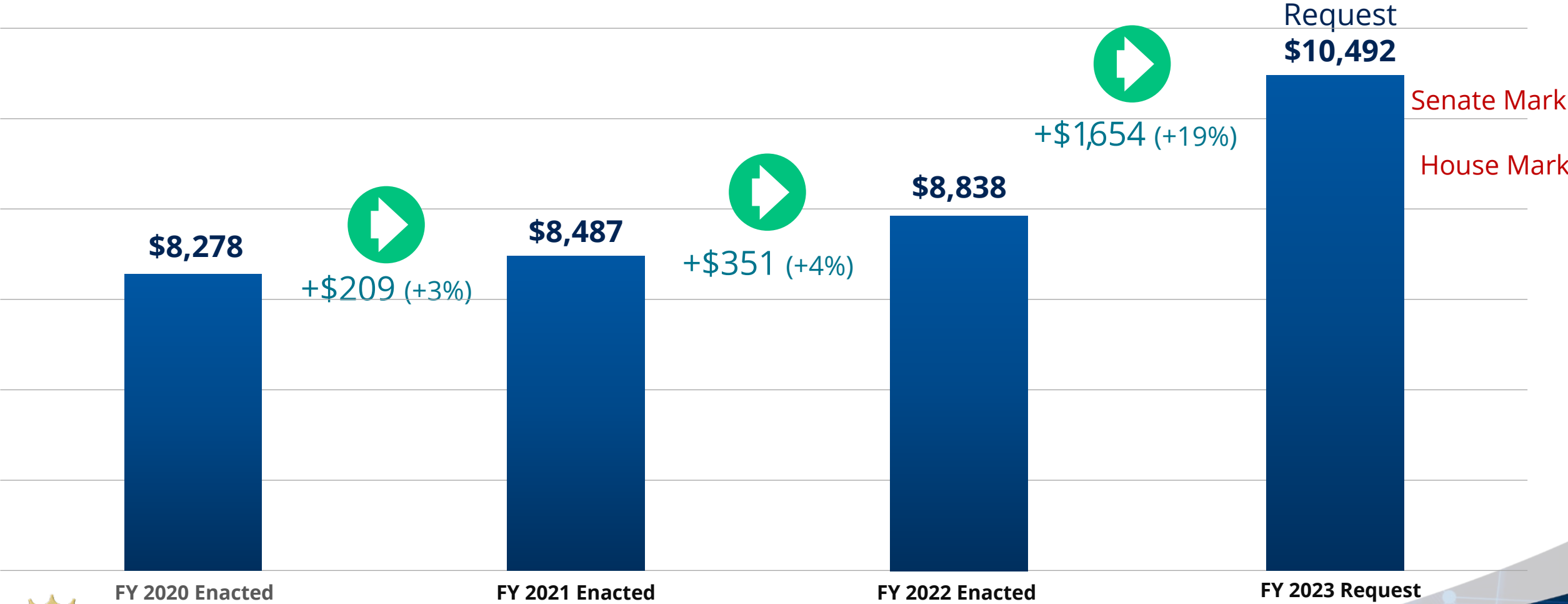
Totals may not add due to rounding.

<sup>1</sup> Reflects the consolidation of the Graduate Research Fellowship Program (GRFP) into EDU.





# NSF Funding Levels FY 2020-FY 2023



(Dollars in Millions)

# CURRENT ADMINISTRATION PRIORITIES

NSF will align investments with the Administration's agenda, including:

- Prioritize climate-related activities
- Promote equity for underserved communities
- Support economic recovery and research security
- Continued emphasis on Emerging Industries: AI, Advanced Manufacturing, Advanced Wireless, Biotech, Microelectronics/Semiconductors, QIS



# FY 2024 Planning

# BUDGET PROCESS – WHERE ARE WE?

Timeframe	NSF Leadership Activities
June - July 2022	<ul style="list-style-type: none"><li>✓ NSF Leadership Retreats</li><li>✓ NSF-NSB Committee on Strategy Retreat</li><li>✓ OMB FY 2024 Budget Guidance Issued</li><li>✓ Joint OMB/OSTP R&amp;D Priorities Memo Issued</li></ul>
August 2022	<ul style="list-style-type: none"><li>✓ NSB Meetings</li></ul>
September 2022	<ul style="list-style-type: none"><li>✓ Delivered FY 2024 OMB Budget to OMB</li></ul>
Sept – Nov 2022	<ul style="list-style-type: none"><li>✓ Ongoing: Briefings and Discussions between NSF and OMB</li></ul>
December 2022	B&O Advisory Committee Meeting

**We are here**



# FY 2023 - 2024: WHAT'S NEXT?

- Budget Division is doing preliminary work on the FY 2023 Current Plan letter and supporting tables, preparing for the passage of the FY 2023 appropriation.
- Passback for FY 2024 is expected from OMB after Thanksgiving followed by Settlement in December.
- NSF's FY 2024 Congressional Request submission date is February 6, 2023.







# Questions?



# BUSINESS AND OPERATIONS ADVISORY COMMITTEE MEETING

*Amanda Hallberg Greenwell  
Head, Office of Legislative and Public Affairs  
December 12, 2022*



# NSF's Investment Pillars/Strategies



**STRENGTHENING  
ESTABLISHED NSF**



**INSPIRING  
MISSING MILLIONS**



**ENSURING THE  
SUCCESS OF TIP**

Create Opportunities Everywhere

Build a Resilient Planet

Advance Emerging Industries for National and Economic Security

Strengthen Research Infrastructure



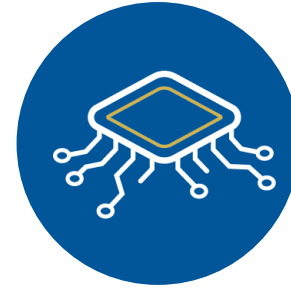
# FY 2023 Budget Status



NSF is Operating under a continuing resolution through December 16, 2022.



Congress working on FY 2023 appropriation bills.



CHIPS and Science Act authorizes significant increases, but appropriations needed.



<b>NSF Budget by Appropriations (\$ in Millions)</b>	<b>FY 2022 Request</b>	<b>FY 2022 Enacted</b>	<b>FY 2023 Request</b>	<b>FY 2023 CHIPS Authorization</b>
Research & Related Activities	\$8,139.71	\$6,999.52	\$8,425.987	\$9,050
STEM Education	\$1,287.27	\$1,149.46	\$1,377.18	\$1,950
Major Research Equipment & Facilities Construction	\$249	\$240.52	\$187.23	\$249
Agency Operations & Award Management	\$468.30	\$424.90	\$473.20	\$620
Office of Inspector General	\$20.42	\$19.00	\$23.393	\$23.390
Office of the National Science Board	\$4.60	\$4.60	\$5.09	\$5.09
<b>Total NSF</b>	<b>\$10,169.30</b>	<b>\$8,838.00</b>	<b>\$10,492.08</b>	<b>\$11,897.48</b>

Totals may not add due to rounding.



# FY 2023 Funding Levels

The House bill provides \$9.6B or +\$793M (+9%) over the FY22 Enacted

The Senate bill provides \$10.3B or +\$1.5B (+12%) over the FY22 Enacted

(Dollars in Millions)

Account	FY 2021 Enacted	FY 2022 Enacted	FY 2023 Request <sup>1</sup>	FY 2023 House Mark <sup>1</sup>	FY 2023 Senate Mark <sup>1</sup>
Research & Related Activities	\$6,910	\$7,159	\$8,426	\$7,706	\$8,322
STEM Education or EDU (formerly EHR)	968	1,006	1,377	1,250	1,327
Major Res. Equip. & Fac. Construction	241	249	187	187	187
Agency Operations & Award Mgmt	346	400	473	460	473
Office of Inspector General	18	19	23	23	23
National Science Board	5	5	5	5	5
<b>Total</b>	<b>\$8,487</b>	<b>\$8,838</b>	<b>\$10,492</b>	<b>\$9,631</b>	<b>\$10,338</b>

Totals may not add due to rounding.

<sup>1</sup> Reflects the consolidation of the Graduate Research Fellowship Program (GRFP) into EDU.

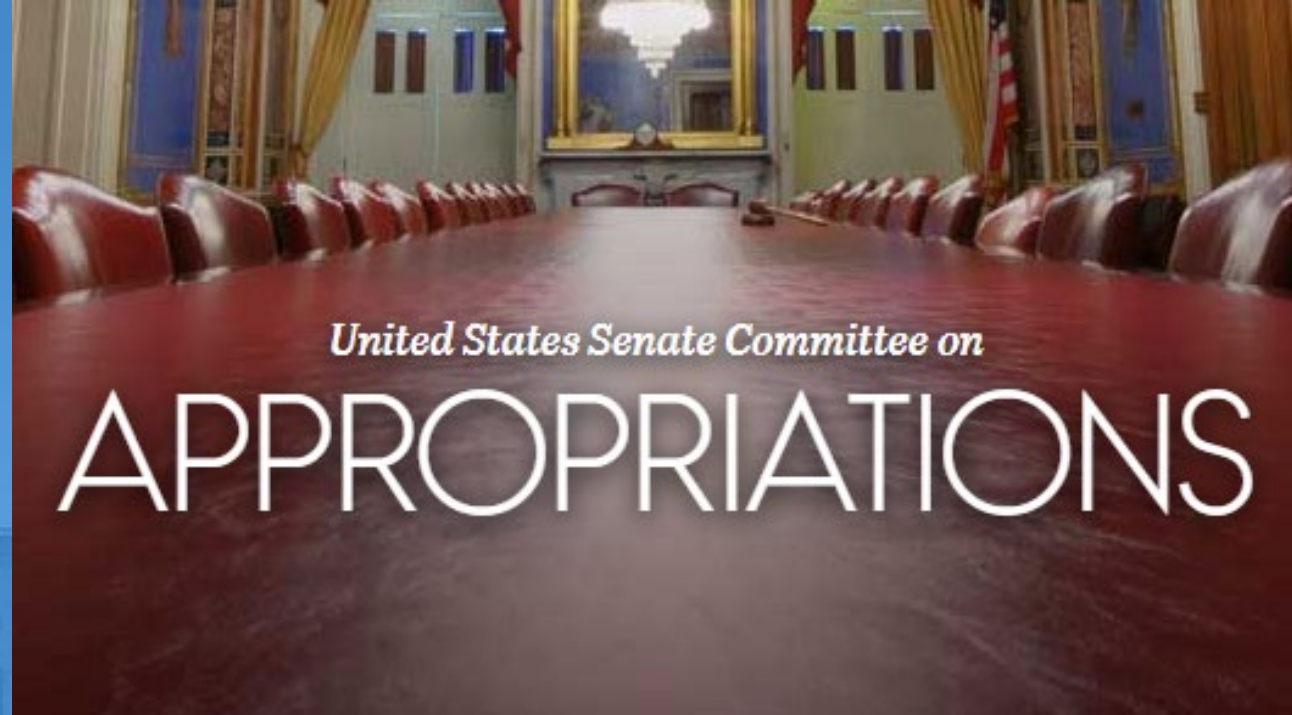




# House Committee on Appropriations

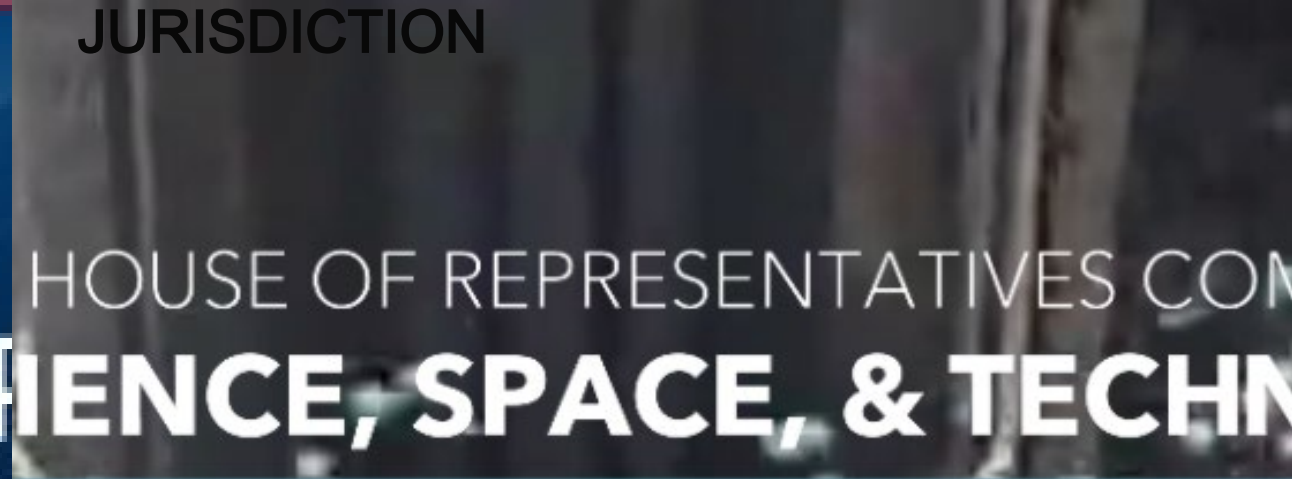
COMMITTEES OF JURISDICTION

U.S. SENATE COMMITTEE ON COMMERCE, SCIENCE, & TRANSPORTATION



*United States Senate Committee on*

# APPROPRIATIONS



HOUSE OF REPRESENTATIVES COMMITTEE ON SCIENCE, SPACE, & TECHNOLOGY

Bernice Johnson, Chairwoman • Frank Lucas, Ranking Member



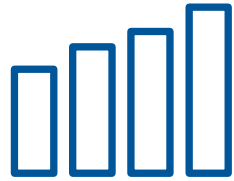


Technology, Innovation and Partnerships (TIP) is not just a directorate, it is a concept that permeates NSF.

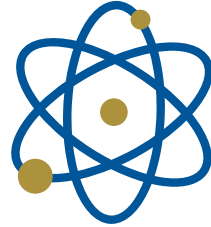




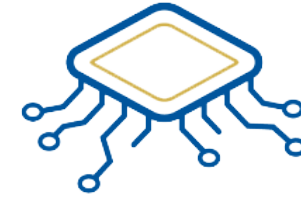
# “CHIPS and Science” and NSF



Authorizes a doubling of the NSF budget over 5 years



Strengthens fundamental research



Establishes Technology, Innovation & Partnerships



Invests in STEM Education



Advances diversity in STEM



Addresses research security



# Implementation Efforts

Work that is currently underway:



\$200 million for semiconductor education & workforce training



Regional Innovation Engines, or NSF Engines, program



Entrepreneurial Fellowship Program with Activate.org



NSF INCLUDES initiative codified and renamed the Eddie Bernice Johnson INCLUDES

**Backgrounder: Fall 2022**  
*NSF Advisory Committee for Business and Operations*

**Nature of Agenda Item:** Knowledge Management at NSF

**Presentation:**

Over the past decade, NSF has changed. Our budget has grown 30% larger. The agency has added a new directorate and new functions. Further, employees have new ways of interacting in the hybrid environment. The old ways of sharing knowledge – such as going to an expert and asking questions – will no longer suffice on their own. Knowledge needs to be out in the agency – in addition to in our experts' heads – for all to access, which mitigates the risk from loss of permanent and rotator staff, increases our efficiency, and allows for more agile and strategic decision-making. In March 2022, NSF appointed an executive, Dr. Linda Blevins, to lead Knowledge Management (KM) frameworks for the agency. As a first experiment, Blevins is leading the conceptualization, development, and implementation of KM for internal policies. She is also developing a KM roadmap for the agency. NSF is using two key definitions in its work:

- *Knowledge Management (KM)* comprises a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizations, as processes or practices (OPM definition).
- *Knowledge* (as opposed to information) is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (Davenport and Prusak, 2000).

In the NSF of the future, internal knowledge sharing will be consciously planned, executed, and reflected upon in every activity. We will have the tools and staff to support the work, and our employees will be rewarded for paying it forward. Further, staff at all levels will be well informed about operational and strategic developments at NSF.

**Committee Action/Feedback**

1. How does Knowledge Management (KM) work in your current or former organization?
2. Knowledge Management is about people and culture more than about technology. What have you seen work in your organizations to motivate the behavior changes needed for effective KM?
3. What are some effective technology implementations for KM?

**Contact Person:** Linda Blevins, 703-292-7247, [lblevins@nsf.gov](mailto:lblevins@nsf.gov)







“If you have one dollar to invest in knowledge management, put one cent into information management and 99 cents into human interaction.”

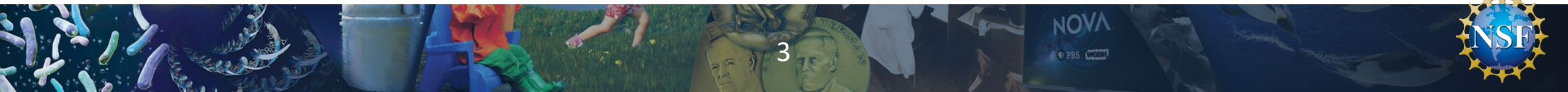
-Larry Prusak



# Definition of Knowledge Management

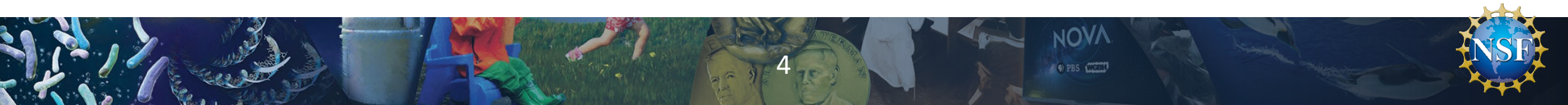
## - Office of Personnel Management (OPM)

- A range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insights and experiences
- Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizations as processes or practices
- KM efforts typically focus on:
  - management of knowledge as a strategic asset
  - encouraging the sharing of knowledge



# Knowledge Management Basics

- Knowledge Management Is:
  - A shift in mindset from maintaining knowledge as individuals to maintaining knowledge as an agency
  - More about people than a technical solution
- Knowledge Is:
  - Not to be stocked; rather, it is a flow, and its capture is less critical than its transfer
  - Not fixed; it is evolving, and its history is as important as the knowledge itself
- NSF needs:
  - A vocabulary and a MOVEMENT around knowledge management
  - Knowledge brokers to move knowledge among people and to move NSF from one mindset to another





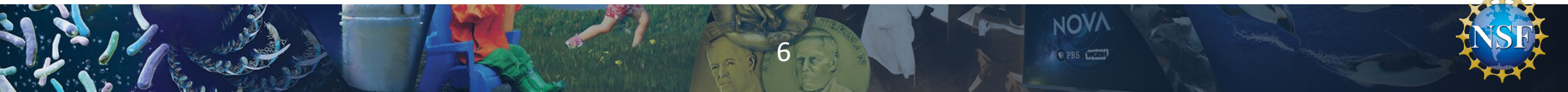
# NSF Values Knowledge Creation & Dissemination

- NSF funds knowledge creation via scientific research
- We expect our Principal Investigators to:
  - Create knowledge
  - Disseminate knowledge through archival publications and conferences
  - Create data management plans
- It's how science moves forward
- Knowledge Management for NSF turns this lens inward: We hold ourselves accountable for paying it forward



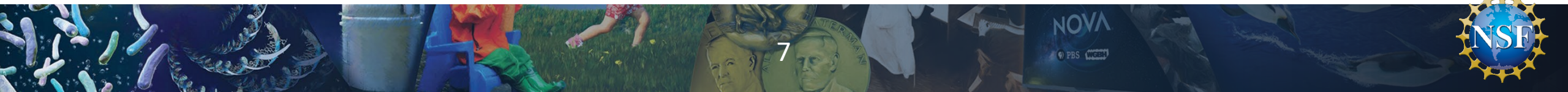
# Barriers to Overcome

- Too busy / no time
- Knowledge as job security
- Autonomy as a value
- Adoption of new approaches takes trust and time



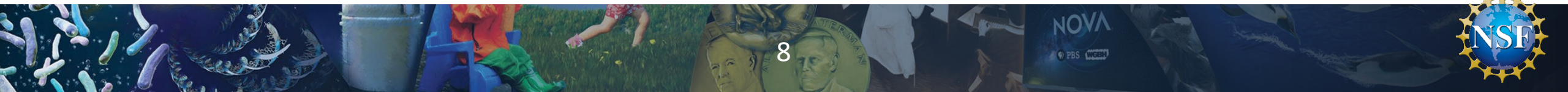
# Vision for KM at NSF

- Knowledge sharing is consciously planned, executed, and reflected upon in every activity
- We have tools and staff to help generate and share knowledge
- Our employees are rewarded for paying it forward
- All staff in all jobs are well informed about operational and strategic developments at NSF



# The Time Is Now

- We are growing:
  - Over the last decade, NSF's budget grew 28% and our workforce grew 8%
- Our functions are changing:
  - For example, we now award research contracts in addition to research grants
- We have new ways of interacting:
  - We have a hybrid workplace
- We need new solutions:
  - The old ways of sharing knowledge will not suffice



# NSF Leaders Initiated KM in Early 2022

- Appointed an executive leader with deep relationships inside and outside of NSF
- Gave her seats at many tables and access to the C-Suite
- Asked her to develop recommendations and lead change
- Supported (and continue to support) KM with enthusiasm



# The First KM Experiment will be on Internal Policies

- How do we create internal policies and share knowledge about them?
- When faced with a decision, how does an NSF employee:
  - Know if a policy exists?
  - Know where to find the policy?
  - Know how to apply the policy to their situation?
  - Know when a policy needs an update?





# Steps Taken to Develop Recommendations

- Listening to staff and leaders across NSF to:
  - Identify pain points and barriers
  - Develop a vision and messaging
  - Create engagement leading to buy-in
  - Identify agency knowledge and understand its history
- Connecting with numerous federal agencies to:
  - Identify proven structures and practices
  - Benefit from cross-agency partnerships
- Researching technology architectures



# Leading the Integration of KM into NSF's Culture

- “Lead like a psychiatrist – not a surgeon.” -Ronald Heifetz
- Adaptive challenges can only be addressed through changes in people’s priorities, beliefs, habits, and loyalties:
  - Making sure progress goes beyond authoritative expertise to mobilize discovery, shedding certain entrenched ways, tolerating losses, and generating the new capacity to thrive anew

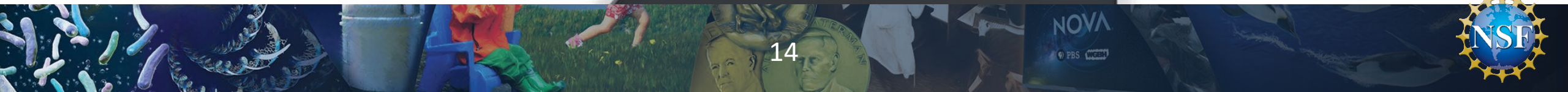
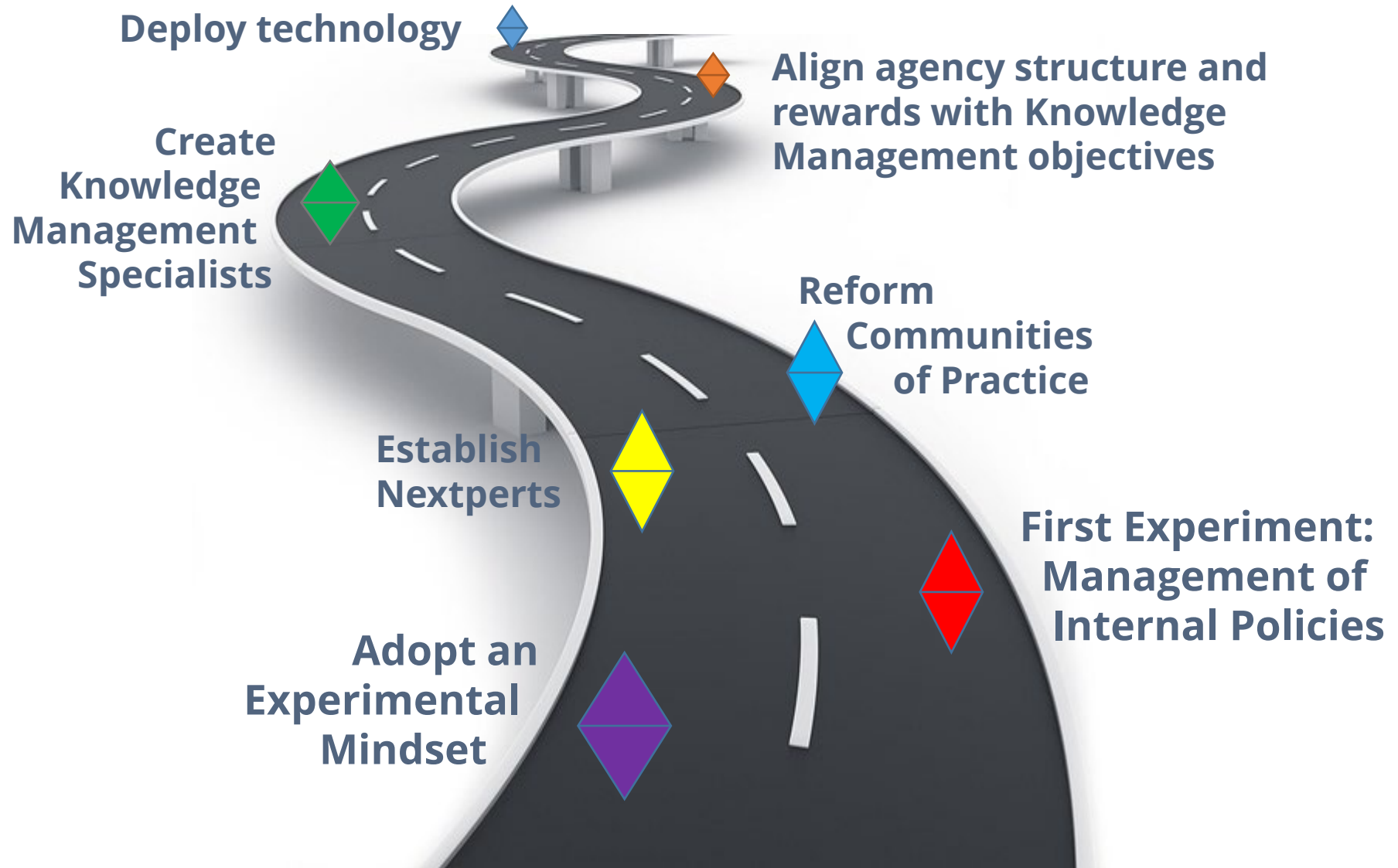


# Initial Results

- Knowledge Management Roadmap
- Technology Observations

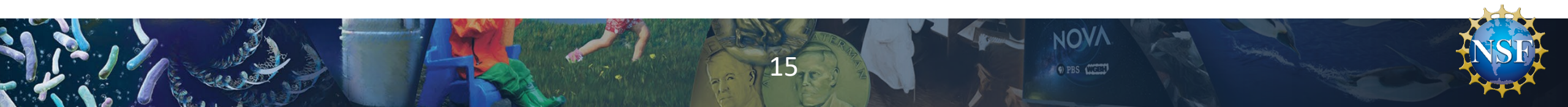


# Knowledge Management Roadmap



# Finding: Technology for KM is Modular

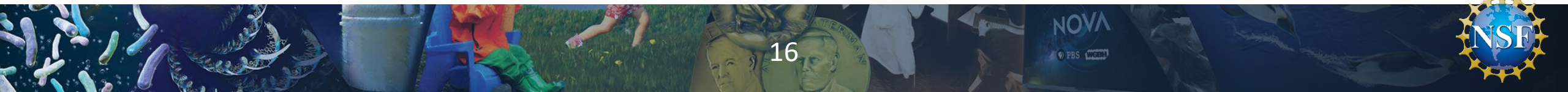
- Content management, taxonomy/ontology middleware, and search engines can seemingly be selected separately and stitched together
- Modules can be open-source or commercial
- It is possible to seek smart retrieval now while building in the flexibility to add new technologies as they become available
- Good information architecture is the key to flexibility in the future
- NSF and other agencies like DARPA and AFOSR funded the basic research 30 years ago that led to today's modularity





# BOAC Action/Feedback

1. How does Knowledge Management (KM) work in your current or former organization?
2. KM is about people and culture more than about technology. What have you seen work in your organizations to motivate the behavior changes needed for effective KM?
3. What are some effective technology implementations for KM?







**Backgrounder: Fall 2022**  
*NSF Advisory Committee for Business and Operations*

**Nature of Agenda Item:**

Unsolved Problem

**Presentation:**

Federal agencies, including NSF, are transitioning to hybrid workplaces (i.e., workplaces that incorporate a mix of employees working onsite and employees working from geographically dispersed locations). NSF adopted its new, hybrid work posture in October 2022 with two possible designations for all positions – “telework positions” that require some physical presence onsite at NSF, and “remote eligible positions” that do not require any physical presence onsite. The assignment of each NSF position into one of the two designations followed extensive agency research, with decisional deliberations led by NSF’s Office of the Director and its designees.

NSF intends to periodically review the assignment of positions within the two position designations based on recurring evaluations of the impact of designations on NSF employees and on the agency’s ability to achieve its mission. The agency’s overarching human capital goal, aligned with the agency’s strategic goals and codified in NSF’s 2022-2026 Strategic Plan, is, “Attract, empower and retain a talented and diverse workforce.” The elements within that goal provide the framework for the Hybrid Work Posture Evaluation.

NSF’s Division of Human Resource Management (HRM) is currently drafting the Hybrid Work Posture Evaluation plan, to include key metrics and performance indicators that will allow incremental assessments to inform future decisions about talent management and human capital strategies. We seek the Committee’s expert feedback and insights to help ensure our Hybrid Work Posture Evaluation plan is aligned with industry best practices and structured to optimize its value as a vehicle to inform and promote effective change management as the agency’s work posture evolves. We also seek suggestions about strategies for maximizing the agency’s ability to attract, develop, engage and retain its workforce in situations when changes to position designations are desired by employees but are not currently feasible or viable.

**Committee Action/Feedback**

As NSF frames its evaluation plan to assess the agency’s hybrid work posture, we seek the Committee’s thoughts and advice about the identification and mitigation of barriers and risks associated with the endeavor; the overarching evaluation framework and research questions of interest to NSF; the suite of metrics/measures, as currently constituted and presented to the Committee, intended to assess each targeted area of human capital management and the impact on NSF employees; strategies for making meaningful inferences from data from small population sizes; and general feedback on the proposed strategy of reviewing position designations periodically based on data and information collected and analyzed quarterly for agency leadership. We also seek the Committee’s advice about broadly communicating the results of recurring assessments and resulting leadership decisions, along with strategies for maintaining employee engagement in the assessment process, and in the critical work of NSF, if/when desired

changes to position designations do not occur. In particular, we plan to engage the Committee and ask the following questions:

- What research questions are critical to NSF understanding the impact of its hybrid work posture on its human capital goals and on its workforce?
- Has the Committee experienced, or become aware of, barriers to the type of evaluation being planned and/or challenges we should anticipate and mitigate?
  - What strategies should we employ for making meaningful inferences from data from unavoidably small population sizes?
- Are the metrics/measures currently proposed appropriate and sufficient to identify changes occurring within the NSF employee population and in the agency's ability to achieve its targeted human capital goals?
  - At what frequency should evaluation data be collected, analyzed, and reported to leadership?
  - To what extent, if any, should analyzed data be shared beyond NSF executive leadership team?
- At what frequency should position designations be reviewed?
- What strategies should the agency employ to maintain employee engagement in the hybrid work setting?
- Is the Committee aware of any other agencies or organizations conducting similar evaluations of their hybrid work postures?
  - Are there any organizations we could reach out to for benchmarking, or exemplary cases we could research?

**Contact Person(s)-**

**Presenter and Project Sponsor:**

**William Malyszka**

Division Director, Human Resource Management

Deputy Chief Human Capital Officer

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**Rock Fowler**

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**Lillian Thomas** Strategic Human Capital Planning Branch Chief

[llthomas@nsf.gov](mailto:llthomas@nsf.gov) | (703) 292-2571



# Office of Information and Resource Management

*Hybrid Work Posture Evaluation Design – BOAC Meeting  
December 12, 2022*



# Background

NSF adopted a new, hybrid work posture on October 24, 2022, with two designations for all positions: **Telework** and **Remote Eligible**.

- Initial position designation counts: Telework (922; 63%); Remote (83; 6%); 90-day Remote Exception (468; 32%).
- Remote positions do not require employees in those positions to maintain a physical presence at NSF headquarters.
- The assignment of each NSF position into a position designation followed extensive research, with deliberations led by NSF's Office of the Director and its designees.
- NSF intends to periodically revisit its hybrid workforce position designations to ensure that the agency's culture of collaboration, innovation, and engagement – essential to accomplishing the NSF mission – is continually optimized.
- NSF's 2022-2026 Strategic Plan codified an overarching human capital goal\* that provides the framework for evaluating the agency's new, hybrid work posture.

*\* NSF's Overarching Strategic Human Capital Goal:  
Attract, empower, and retain a talented and diverse workforce.*





# Vision for Hybrid Work Posture Evaluation

*"NSF cultivates capabilities that enable it to be nimble and innovative by using flexible human capital processes that position NSF to readily adapt in a changing scientific and technological environment. From recruitment to development and retention of exceptional administrative and business professionals, scientists and engineers, NSF's investments in human capital, and its commitment to its staff, are rooted in the knowledge that people make scientific exploration and discovery possible."*  
–FY 2022-2026 NSF Strategic Plan

The NSF culture and the high performance and engagement of the NSF workforce are crucial to the fulfillment of the agency's mission, therefore:

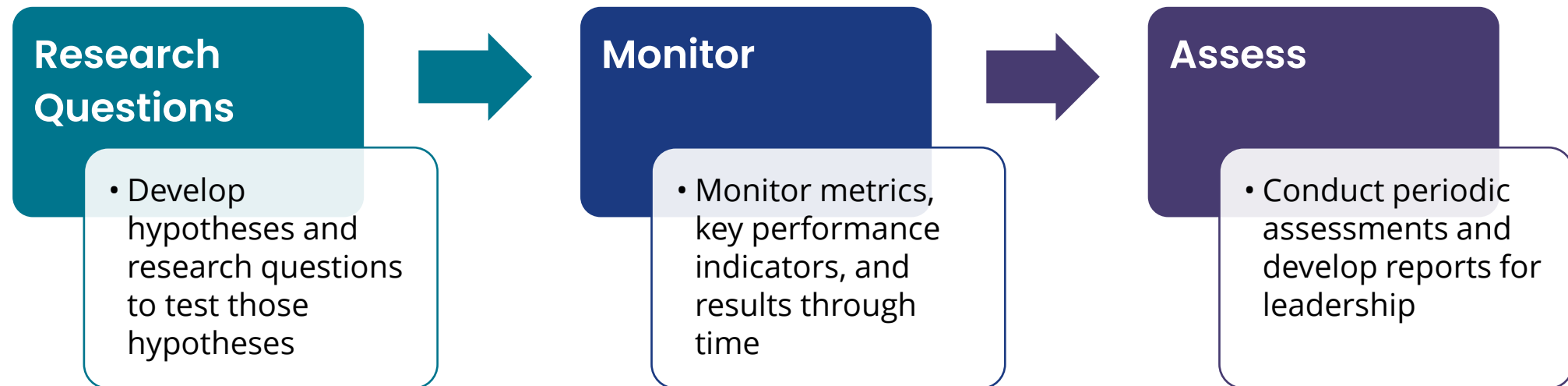
- The evaluation of NSF's new hybrid work posture will have two focal points:
  - 1) Understand the impact of NSF's hybrid work posture on the agency's ability to accomplish its human capital goals\* and maintain its core values.
  - 2) Understand the impact of NSF's hybrid work posture on NSF employees.
- Results from recurring evaluations will be reviewed regularly and leveraged to inform agency direction regarding culture, position designations, and NSF's hybrid work posture.

\*NSF's human capital goals are derived from and linked to the agency's strategic and performance goals. An evaluation of agency performance in the new hybrid work posture will be led by the OD; that evaluation will be informed, in part, by this effort.



# Evaluation Approach

- Explore both short- and long-term outcomes.
  - Note: Organizational level policy and procedure changes take time to enact and to realize their full impact.
- Understand what relationships are worth exploring/which research questions to ask based on:
  - 1) What social science research tells us can be predicted from the independent variables associated with the research questions of interest.
  - 2) What is actionable/adaptable to continuously enhance collaboration, innovation, and engagement.
- Leverage existing key performance indicators (i.e., metrics) to answer research questions, where possible, and identify other metrics/measures/data points as needed.



# Possible Research Questions

- **Attract:** How do new work posture designations relate to NSF's ability to attract new talent?
- **Develop/Access to Opportunities:** Does position designation relate to perceived access to developmental, project, training, or other collaborative opportunities?
- **Retain:** Have turnover intentions or turnover rates shifted since the new hybrid work posture was adopted? To what extent do employees of different work designations have different levels of commitment to NSF and different intentions of remaining at NSF for the foreseeable future?
- **Engage:** What effect does the new hybrid work posture have on staff attitudes and emotions toward their jobs? How does this effect change over time?
- **Diversity:** Do the hybrid work posture and position designations impact people of different demographic backgrounds disproportionately?
- **Workplace Environment/Culture:** How are various aspects of NSF's workplace climate and culture (e.g., leadership support, resource allocation, colleague interaction, etc.) influenced by position designations?



# Potential Data, Metrics, and Measures

Area	Potential Data Source(s)	Sample Metrics	Example Insights Gained
<b>Attract</b>	USA Jobs	# of job announcements posted for remote positions and telework positions # of applications received per posting Demographics of applicants	NSF saw an increase/decrease/no change in applications received for positions overall (e.g., look at remote positions).
<b>Retain</b>	NSF Personnel Data/ FPPS Exit Survey	Two-year retention rate # of people who separated and selected “restriction on remote work” as a reason Intent to remain levels	NSF lost more/fewer/no change people (proportion of change from each work designation).
<b>Develop</b>	Learning Needs Assessment Learning Management System	# of trainings taken by modality Learning needs reported Reported barriers to participation in training and development activities	NSF saw an increase/decrease/no change in # trainings taken by modality.
<b>Engage</b>	Federal Employee Viewpoint (FEVS) Survey NSF Pulse Survey Employee Engagement Listening sessions	Changes in FEVS Employee Engagement (EE) index score over time Themes from qualitative coding	NSF saw an increase /decrease/no change in EE index score in the first two years.



# Independent Variables to Consider

## Person & Position Characteristics

- Work posture designation
- Job family
- Grade
- Appointment type
- Supervisory status
- Demographic information (e.g., race, ethnicity, age, tenure, gender)
- Veteran status

**Note:** Limitations of small populations may impact certain demographic or cross-sectional analyses.





# BOAC Discussion Questions

- What are the critical research questions?
- Barriers to the type of evaluation? E.g., small sample size; lag time to see effects; lack of identifiers to combine different data sources; making inferences without causal evidence.
  - Strategies to employ to overcome barriers?
- Value of existing data to answer research questions? Proposed metrics?
  - At what frequency should evaluation data be collected, analyzed, and reported to leadership?
  - To what extent, if any, should analyzed data be shared beyond NSF executive leadership team?
- At what frequency should position designations be reviewed?
- What strategies should the agency employ to maintain employee engagement in the hybrid work setting?
- Is the Committee aware of any other agencies or organizations conducting similar evaluations of their hybrid work postures?
  - Other best practices or organizations to benchmark?





# Questions

**BOAC Subcommittee on NSF's Information Technology and Enterprise Architecture**  
**Recommendations**

**Introduction**

The Subcommittee has been charged with reviewing NSF's IT Strategy and related Architecture and providing a bulleted list of informed recommendations for changes in process, direction, and/or potential investment in new and emerging technologies for possible implementation in the next budget year. The committee has completed its review.

The subcommittee was pleased to see the progress made by the CIO's office on the 2021 BOAC recommendations. For organizing the IT projects by Investment Groups, provides improved transparency and clarity on the impact of future NSF IT investments.

NSF's Strategic IT goals are appropriate, well stated, and align with NSF's strategic goals: 1. Boost Customer Experience to reduce burden and improve accessibility and inclusivity for digital empowerment. 2. Enable Data-Driven Decision Making to support the mission and communicate NSF accomplishments using Data & Analytics. 3. Unleash next-generation capabilities through continuous Modernization and Technology Innovation. 4. Excel as a Federal Agency in IT Organizational and Management performance.

The Subcommittee's recommendations augment NSF's current IT and emerging technology plans and support the NSF IT Strategic goals: Recommendation 1 (R1) is aligned with NSF IT Strategic Goal 1 (ITSG1), R2 with ITSG3, R3 and R5 with ITSG4, and R4 with ITSG2.

**1. IT supporting a modern workforce**

- a. Promoting continuous workforce improvement through comprehensive and integrated management systems for onboarding, training, and talent management.
- b. Identification, prioritization, and adoption of best-in-class industry and community solutions.
- c. Implementing reliable identification through Common ID platforms (e.g. commercial of the shelf (COTS) and government off the shelf (GOTS) solutions for identity management).

**2. Enabling external stakeholders**

- a. Building or acquiring tools to facilitate developing and operationalizing partnerships between NSF customers and making it easier for new kinds of partnerships between NSF and customers/groups by (1) maintaining a list of all internal and external collaboration tools, (2) retiring legacy collaboration tools, and (3) promoting tools that foster collaboration in a hybrid setting.

- b. Fostering partnerships across industry, becoming a facilitating partner for these relationships and influencing how discovery is shared in a manner that accelerates transfer to impact (government use, lab-to-market, commercialization, etc.).

### **3. Responding to changing mission priorities**

#### **a. Organization and prioritization**

- i Maintaining a clear understanding of key resources including:
  1. Developing a common data inventory across NSF (including data from and common across the CIO, CISO, and CDO).
  2. Maintaining a central repository of internal and external users, with no more than two authentication methods (one for internal and one for external).
  3. Developing a lifecycle strategy for all IT assets and applications.
- ii Building and maintaining a central dashboard for key metrics for all key IT initiatives and posting a high-level annual summary on NSF's public website.

#### **b. Organizational complexity**

- i Aligning the organization to sustain a highly resilient operating environment yet flexible enough to pivot quickly based on evolving responsibilities or varying pace of initiative execution.
- ii Using automation tools (organizational visibility tools) to help solve the documentation/transparency problem. Developing clear, documented, and dynamic metrics/KPIs and track these over multiple quarters and years.

### **4. Investing in Data and Artificial Intelligence (AI)**

#### **a. Developing an AI inventory to ensure there are synergies between the responsible officials for AI and the CDO.**

- i Aligning the AI strategies across the official responsible for AI, the CIO, and the CDO.
- ii Ensuring coordination for the training of the NSF workforce and stakeholders on AI.
- iii In concordance with the "Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government", compliance with the required principles of AI should be required for all NSF grants.
- iv Per their AI Inventory, NSF currently does not possess or utilize any AI systems for agency operations; NSF should identify and pilot use cases to advance its mission.
- v Incorporating AI-specific requirements into the NSF's data strategy and NSF's IT strategy.
- vi Ensuring there are IT policies in place to guide and manage the use of AI across the Agency.

- vii Establishing working groups and communities of practice to ensure the acceleration and adoption of AI.
  - viii Ensuring that all AI use cases are inventoried, and their training data is included in the data inventory.
- b. AI and Data Driven Upskilling and Training of the IT Labor Force**
- i Investing in data technologies to upskill and empower NSF employees is critical to achieving significant number of NSF goals under DIS CCB, DISKO, EDGE, HRIT, FSMWG and IMG pillars. Given the wide-ranging goals of NSF and with employee being at the center of success of these goals, we recommend the following:
    1. Transforming all employees to data consumers with easy access to data and low code data tools to encourage innovation and collaboration across cross functional organizations.
    2. Standardizing AI development and deployment with tools that fit the variety of user persona spanning business users to data scientists to help with swift deployment of innovations and continuous improvements.
    3. Training and upskilling to transform to Data/AI-First organization to unleash the creativity of the employees on wide ranging operational, customer and employee experience, and innovation goals.

## **5. IT Excellence**

- a. Building tools for internal NSF customers and making it easier for new kinds of partnership between NSF and customers/groups.**
- i Maintaining a list of all internal and external collaboration tools.
  - ii Retiring legacy collaboration tools.
  - iii Promoting tools that foster collaboration in a hybrid setting.
- b. Cyber infrastructure and Security**
- i **Cyber and Compliance/ Zero Trust Architecture (ZTA)**—This is a required by Executive Order and needs to be a foundational part of the NSF’s IT strategy.
  - ii Formulating a public IT strategic plan that includes the Cybersecurity priorities – including ZTA.
  - iii Implementing robust repositories and inventories of data, applications, users, and IT resources to support ZTA. Invest in a modern, software-defined network with capable cyber defenses to facilitate authenticated flows.
  - iv Centralizing and secure all logs to allow rapid analytics with privacy and control.
  - v Assessing NSF’s Cybersecurity Operations using a reputable agency. Ensuring funding is allocated to address any deficiencies and consider leveraging one of the Government shared service providers.



# BOAC MEETING

Subcommittee on NSF's Information  
Technology and Enterprise Architecture  
Strategy

December 12, 2022



## Subcommittee on NSF's Information Technology and Enterprise Architecture Strategy

**Charge:** Prepare a bulleted list of recommendations regarding the direction of IT at NSF, and/or suggestions for leading-edge technologies on the horizon for potential implementation in the next budget year.

### Agenda and Subcommittee (5 mins per topic)

- **Introduction: Shawn Brown;** Senior Director, Platform Engineering HPC & AI Cloud Services, Hewlett-Packard Enterprise (HPE)—**Co-Chair**
  - Tilak Agerwala; Vice President IBM (Retired), Subcommittee Chair, BOAC Liaison
- **R1: IT supporting a modern workforce: Lee Cheatham;** Director of Technology Deployment and Outreach, Pacific Northwest National Laboratory (Retired)
- **R2: Enabling external stakeholders: Suzette Kent;** CEO Kent Advisory Services; Former Federal CIO for the US
- **R3: Responding to changing mission priorities: Shawn Brown;** Senior Director, Platform Engineering HPC & AI Cloud Services, Hewlett-Packard Enterprise (HPE)—**Co-Chair**
- **R4: Investing in Data and Artificial Intelligence (AI): Viji Krishnamurthy;** Senior Director, Product Management, Oracle Cloud Infrastructure AI services
- **R5: IT Excellence: Ron Bewtra;** Director, Leadership High Performance Computing, Hewlett Packard Enterprise; Former Chief Technology Officer, US Department of Justice



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- Building and maintaining a central dashboard for key metrics for all key IT initiatives and posting a high-level annual summary on NSF's public website.

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  - Ensuring coordination for the training of the NSF workforce and stakeholders on AI.
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- **AI and Data Driven Upskilling and Training of the IT Labor Force**
  - Transforming all employees to data consumers with easy access to data and low code data tools to encourage innovation and collaboration across cross functional organizations.
  - Standardizing AI development and deployment with tools that fit the variety of user persona spanning business users.

## 5. IT Excellence

- **Building tools for internal NSF customers and making it easier for new kinds of partnership between NSF and customers/groups.**
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