

**National Science Foundation  
Advisory Committee for Business and Operations  
Spring 2024 Meeting Notes  
March 4, 2024**

**Attendees:**

Dr. Tilak Agerwala	Technologist At-Large, Professor, IBM Vice President (Retired)
Dr. Benjamin L. Brown	Director, Facilities Division, Office of Advanced Scientific Computing Research, U.S. Department of Energy Office of Science
Dr. Shawn T. Brown	Senior Director of Platform Engineering, HPC & AI Cloud Services, Hewlett-Packard Enterprise
Ms. Kathleen Dahlberg	CEO, Galileo Group International
Ms. Irene Kariampuzha	Deputy Director, Museum Operations, National Museum of American History, Smithsonian Institution
Mr. Larry Koskinen	Advisor on Enterprise Risk Management, Deloitte; Retired Federal Executive and Risk Management Consultant
Dr. James Martin	Vice Chancellor of STEM Innovation and Research, University of Pittsburgh
Mr. David Mayo (co-chair)	Senior Director for Research Administration, California Institute of Technology
Dr. Joseph Mitchell	Director of Strategic Initiatives, National Academy of Public Administration
Dr. Robert Nobles	Vice President for Research Administration, Emory University
Mr. Benjamin Page	Senior Advisor to the Secretary for Implementation Officer of the Secretary of Commerce
Mr. William J. Valdez	President, Global Innovation Associates LLC
Ms. Maureen E. Wylie (co-chair)	Federal Chief Financial Officer (Retired)

**Welcome/Introduction/Previous Recommendations**

*Co-Chairs: David Mayo and Maureen Wylie*

The meeting was brought to order and introductions made of attending members, including 4 new members: Ms. Kathleen Dahlberg, Ms. Irene Kariampuzha, Dr. James Martin and Mr. Ben Page; BOAC member Mr. Gregory Parham was unable to attend. Also recognized for their contributions were those members who would be rotating off the BOAC: Drs. Ben Brown and Joe Mitchell.

Attending NSF personnel were introduced, including Janis Coughlin-Piester, Jason Bossie, Wonzie Gardner, Jr., Peggy Gartner, Jeff Rich, Chuck Barber, and Terry Carpenter.

Previous recommendations and outcomes from the subcommittee on NSF’s Information Technology and Enterprise Architecture Strategy were provided to members in the briefing books.

**BOAC Mission Rescoping**

Presenter: Janis Coughlin-Piester

Ms. Coughlin-Piester summarized the current BOAC charter, which includes the committee’s responsibility for providing advice to the Office of Budget, Finance, and Award Management (BFA) and to the Office of Information and Resource Management (OIRM) on issues related to oversight, integrity, development, and enhancement for improved performance of NSF business operations. Ms. Coughlin-Piester introduced NSF’s decision to expand the scope of the BOAC to include two new NSF work units (1) Office of the Chief Information Officer (created at NSF in January 2024) and (2) Chief Diversity and Inclusion Officer (CDIO) (created at NSF in January 2023).

Ms. Coughlin-Piester thanked two members who have reached the end of their second terms—Drs. Ben Brown and Joe Mitchell.

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

*Presenters: Janis Coughlin-Piester, BFA; Peggy Gartner, OIRM; Caitlyn Fife, BFA; Robert Moller, OLPA*

**Annual Conflicts of Interest**

*Presenter: Janis Coughlin-Piester*

Ms. Coughlin-Piester provided remarks concerning the role of the BOAC within NSF, reminding members that, as a Federal Advisory Committee Act committee, the BOAC must meet certain minimum requirements, including issuing public notice in advance of open meetings and identifying designated federal officials for the committee.

Ms. Coughlin-Piester reviewed advisory committee best practices and conflict of interest requirements, clarifying that members must recuse themselves if the advice they might give would impact the member's employing institution, impact another board that they serve, have financial interest in a company that would be impacted or any affiliation that would not allow for fully objective and unbiased information. Further, members must not solicit or accept gifts from a prohibited source.

### **Budget, Finance, and Award Management (BFA) Updates**

*Presenter: Janis Coughlin-Piester*

Ms. Coughlin-Piester provided the committee with the following updates:

- BFA made a record number of awards with a record level of funding and wrapped up the financial statement with another clean audit opinion.
- BFA conducted pre-award reviews, negotiated terms and conditions, and awarded the inaugural class of the regional innovation engine grants which is the flagship program of the new Directorate for Technology, Innovation and Partnerships (TIP).
- BFA continued its efforts to support research infrastructure, operations, and maintenance and to shepherd new projects through construction phases.
- The award and oversight of the mid-scale research infrastructure program was realigned and the government-wide G-invoicing initiative continued implementation.
- Year-round budget formulation and execution efforts continued.

Ms. Coughlin-Piester also informed the members of upcoming outreach activities to the grantee community:

- A virtual meeting will be held March 18, 2024, complementary to a recently held workshop for Historically Black Colleges and Universities (HBCUs) to provide an opportunity to learn and ask questions about the financial and administrative requirements for NSF awards and encourage greater participation.
- NSF's Policy Office will host a virtual event on March 12, 2024, to provide information related to recent updates made to the 2024 Proposal and Award Policies and Procedures Guide (PAPPG).
- In late March 2024, the 2024 NSF Research Infrastructure Workshop will be held in hybrid format and hosted in Arizona to exchange lessons learned, discuss new initiatives, demonstrate project management tools, and promote collaboration.
- The NSF grants conference will take place in Philadelphia from June 3-5, 2024, in a hybrid format with an expected 400 in-person participants and thousands of virtual attendees. This will be the first in-person conference since fall 2019.

### **Office of Information and Resource Management (OIRM) Updates**

*Presenter: Peggy Gartner*

Ms. Gartner informed the committee of OIRM accomplishments since the last meeting, highlighting:

- Government-wide achievements in customer satisfaction, including a federal enterprise Hiring Managers Satisfaction survey where the Division of Human Resource Management (HRM) attained the highest score amongst federal agencies.
- NSF's Federal Employee Viewpoint Survey scores increased, while overall Federal government scores declined for the past three years.
- The Division of Information Systems (DIS) once again ranked first out of 24 CFO Act agencies in the 2023 Mission Support Customer Satisfaction Survey administered by OMB and GSA, with the highest score of any agency in any category.
- NSF is continuing to develop its post-pandemic plans to provide a safe working environment and a collaborative hybrid working experience for all employees. This includes defining remote work, telework, work schedule flexibilities, and launching a new telework and work schedule system in collaboration with DIS. A team norms program was also established along with more collaboration spaces by converting mail and copy rooms to team rooms to support the evolving hybrid work environment.
- User experience has been a priority. The Telework and Work Schedule System was updated, streamlined, and moved to the cloud. The staffing and recruitment system was retired and switched to the Office of Personnel Management's USA Staffing system for a better user experience. NSF is using this opportunity to assess opportunities for process improvements.
- In partnership with DIS, the Division of Administration Services initiated several modernization activities, including automating micro purchases, the future year resource planning process, and property management processes.
- The proposal preparation and submission functionality was smoothly transitioned to Research.gov, the FastLane system was decommissioned in late January 2023, and NSF's new website was launched in April 2023.
- NSF partnered with NASA to complete a successful pilot of NASA's e-Books system to determine whether this system is a viable replacement of the legacy NSF interactive panel system for panel reviews.
- NSF launched a new loan repayment program in May 2023 as a recruitment and retention tool.
- The Administrative Position Description Modernization working group has been improving position equity and developed a standard model for administrative positions, which will serve as a baseline for implementation.
- Building renovations began in early February 2024 to create office space for TIP, the newest directorate.
- NSF received an A+ rating on its small business procurement scorecard the past two fiscal years.

## **NSF Budget Updates**

*Presenter: Caitlyn Fife*

Caitlyn Fife provided the committee with updates on the NSF budget:

- NSF's appropriation has increased over the past several years with bipartisan support of basic and translational research.
- The CHIPS and Science Act was signed into law in August 2022 and authorizes \$200 million to the agency over a five-year timeframe. The funding covers the full breadth of NSF work, with emphasis on newly authorized areas, such as research security and TIP.

- In December 2022, NSF also received supplemental resources for disaster, agency base resources (\$700 million), and an additional one-time tranche of \$335 million.
- The Commerce, Justice, and Science conference bill, which was just released, is lower than expected.
- The President’s 2025 fiscal year budget will be released on March 11, 2024. The Administration’s priorities are highly aligned with NSF’s priorities. NSF is also working on the FY 2026 budget, ongoing Congressional discussions, and preparing for the FY 2025 appropriations process.

**Office of Legislative and Public Affairs (OLPA) Updates**

*Presenter: Robert Moller*

Robert Moller informed the committee that OLPA’s focus has been on external stakeholder outreach and highlighting brand recognition. He discussed the following activities:

- In late January 2024, NSF launched the National Artificial Intelligence Research Resource (NAIRR) Pilot program which has bipartisan support on the Hill and is a major initiative of the Administration’s executive order on artificial intelligence.
- The first NSF regional innovation engines (NSF engines) were announced to spur regional economic development around early-stage research and development. The engines are one of the main priorities of the CHIPS and Science Act of 2022.
- The OLPA team has also focused efforts on developing formal internal NSF policies and telling the NSF story through the media, social media, video content, and in education.
- NSF’s 75<sup>th</sup> anniversary will be in 2025. The events will focus on NSF’s past and future and are expected to begin later this year.

**CDIO Introduction- Current Issues**

*Presenter: Dr. Chuck Barber, OD/CDIO*

Dr. Barber discussed the challenges in Diversity, Equity, Inclusion and Accessibility (DEIA) work, the importance of organizational change, outcomes-based thinking, and how NSF plans to organize the work in four business lines: talent management, operations, policy, and culture. He described two models that will be rolled up into a sustainment strategy and used to drive change across the foundation:

- The *maturity model* will give NSF the ability to measure the efficacy of its culture and DEIA capabilities, and
- The *underrepresentation model* will link job series with data from Census, the Bureau of Labor Statistics, and the American Community Survey to develop dynamic benchmarks to assess equity. This model was presented to the chief justice at the DC courts to test its defensibility and it was well received.

The DEIA Maturity Model will assess where an organization falls on the model continuum and create what those success plans are. There are five phases to the model: (1) conforming (2) evolving (3) acceptance (4) cohesive and (5) inclusive. The model has 30 pieces of assessment criteria that use both

quantitative and qualitative data to make assessments and are aligned with the four business lines to help to develop a restorative practice capability.

Member Larry Koskinen praised the work of NSF and Dr. Barber and provided a few opportunities for consideration regarding DEIA in the world of artificial intelligence. Mr. Koskinen discussed a paper written by a group from Google and academia where some lost their jobs because they wouldn't walk back conclusions about a large language model bias at Google. Mr. Koskinen also discussed the opportunity to reduce the level of bias in AI large language models to increase their safety and utility and illuminated the lived experiences of marginalized people as extraordinary assets in that process. Dr. Barber agreed with the comments and discussed a recent article about leveling strategies as opposed to just lifting strategies.

### **Organizational Health and Performance**

*Presenters: Jason Bossie, BFA; Peggy Gartner, OIRM, Theresa Beatty, BFA; Teresa Guillot, OIRM; Victor Powers, OIRM; Lillian Thomas, OIRM; Heather Tompkins, BFA. Discussant- Dr. Joe Mitchell*

Peggy Gartner, who serves as the work environment point of contact for the Office of Management and Budget (OMB), joined Jason Bossie, the BFA Deputy Office Head, to provide an overview of NSF's implementation of the requirements in OMB memorandum M-23-15 related to measuring, monitoring, and improving organizational health and performance. M-23-15 outlines three requirements: (1) update work environment plans related to telework, work schedules, and other policies following increased in-person re-entries; (2) establish routines to assess and implement workplace policy changes; and (3) identify indicators to measure, monitor, and improve organizational health and performance. NSF seeks advice from the committee on the last requirement, which will be the focus of the discussion today.

Mr. Bossie discussed terminology within M-23-15 for (1) *organizational health* – an organization's ability to drive performance results collectively in support of its mission, deliver programs and services, and meet stakeholder needs and priorities on an ongoing basis, (2) *organizational performance* - an organization's effectiveness in delivering mission-aligned results, and (3) *work environment*- the combination of personnel policies and human capital resources to carry out the mission. NSF has been implementing M-23-15 for just under a year with new telework and space policies in the fall and now has completed a couple rounds of collecting and assessing organizational health and performance measures. For human capital, NSF looked at hiring and recruitment as well as employee engagement. NSF also looked at facility usage through badge swipes to determine how many people are coming into the building. NSF has a strong financial management organization with a clean audit opinion for 26 years in a row. NSF is also looking at workload metrics.

Lillian Thomas spoke about survey and system data used to track metrics over time to monitor workforce shifts and talent acquisition. The Federal Employee Viewpoint Survey (FEVS) employee engagement index was leveraged to understand leadership, supervisor satisfaction, and employee engagement. The FEVS global satisfaction index was used to understand satisfaction with the job, pay and the organization.

An NSF pulse survey provided information on employee connection to the mission and a sense of accomplishment from work. The pulse survey looked at the likelihood of staff leaving the foundation and factors that might influence their decision to leave. Attrition rates for staff, retirements, and internal movements were also gathered to determine trends for separations.

Victor Powers spoke about facilities and space usage data used to calculate the average number of Federal employees entering the building on weekdays and the average number of in-person days during a pay period.

Teresa Guillot spoke about an annual GSA customer satisfaction survey that collects data related to support and services that NSF delivers. NSF seeks customer feedback on these measures. Teresa also noted that NSF performs internal customer satisfaction surveys following IT interactions.

Heather Tompkins spoke about performance data collected as part of the GSA customer satisfaction survey, which measures NSF customer satisfaction with the services provided by the contracting and financial management functions as key indicators of NSF's organizational health. NSF also monitors the funding committed and obligated against the operating plan as a workload indicator related to award processes and tracking of goals. Performance on the annual financial audit is tracked as an indicator of NSF's stewardship.

Theresa Beatty spoke about three metrics for the annual financial report: (1) number of competitive proposal actions, (2) number of competitive award actions, and (3) number of active awards. These indicators give a sense of the workload NSF is handling during the proposal and award stages but not the complexity, which is an area where committee input is requested.

Dr. Joe Mitchell discussed an OMB-requested survey by the National Academy of Public Administration (NAPA) to study organizational health. The study, which is at the beginning stages, examines what public and private organizations are doing regarding organizational health. NAPA plans to update a framework from 2018, which will incorporate the new world of work, identify effective strategies for affecting the work, strategies for strengthening organizational health in the current world of work and doing several symposia. Early results indicate that organizational health requires continuous learning and psychological safety. Inclusion and belonging are critical, as well as alignment of people's vision, values, and goals of the work task, being able to work across silos, and encourage innovation. Leadership is critical at all levels, the tone at the top is important, and performance indicators are necessary but not sufficient. External factors, such as planning for a potential government shutdown, play a role in organizational health.

Ms. Wylie commented on her interest in the pulse survey and potential changes to what NSF surveys and the level of survey detail. This would require additional work to ensure all work units have at least the minimum number of respondents to make the data useful. In addition, looking at significant deficiencies and the auditor management letter would be most beneficial because NSF has a history of successful audits.

Ms. Kariampuzha inquired about changes to the workforce and NSF's organizational health. Has NSF been impacted by the hybrid workforce? Is mentorship given to employees to understand the mission and perform at the expected level? How do we capture this? Ms. Gartner responded that the culture assessment discussed by Dr. Barber is one area capturing this information, including whether staff feels aligned to the mission, and some elements of the FEVS that speak to this indirectly. Ms. Coughlin-Piester commented that there are other engagements targeted to assess the onboarding of new employees and the CFO meets with every new employee within their first two months at BFA. The aim is to ask how things are going, understand challenges, ask about their assigned buddy, and better understand the resources available. Ms. Thomas added that open text responses to some surveys and interviews can be helpful to get more qualitative data.

Dr. Martin provided advice for NSF to consider confidential deep dive interviews of two to three percent of the total population for a continuous assessment of individual stories and informative perspectives. He remarked, "if we think about the role of technology in the science and technology community, we have increased competition, interconnectedness, and complexity that has been revealed in many ways, which is an inflection point." Dr. Martin encouraged aggressiveness with developing a data repository, especially because we won't know the real impacts of policy changes for years to come. This will allow NSF to be able to contextualize the impacts. Ms. Coughlin-Piester responded to note that there has been a lot of deep diving into data and collaboration with different offices. NSF is looking at psychological safety and assessing it within work units, facilitating discussions of what is/isn't working, and actions to take. Ms. Coughlin-Piester agreed that it is important to capture data, especially with so many rapidly changing forces upon us at the same time.

Ms. Dahlberg noted that many businesses are figuring out who they are going to need to retire in the next year and are living with continuous challenges for survivability and resilience. Ms. Dahlberg questioned views on team work efforts considering, for example, that people in their 20s have different views from someone in their 50s. Ms. Dahlberg proposed contemplating how we brought on new team members during the pandemic and are dealing with issues of turnover four years later because they never integrated with the original group. Mr. Bossie suggested as NSF thinks through the contextualization that Dr. Martin mentioned it would be great to have that data to look back and to start that process now. Ms. Coughlin-Piester agreed and stated that employees should never make themselves irreplaceable. She also acknowledged looking at resiliency as a factor of how IT is enabling the team overall.

**OCIO Introduction- Vision/Key Priorities**

*Presenter: Terry Carpenter, CIO*

**Terry Carpenter:**

NSF is going through an IT reorganization, establishing the CIO office as a peer to CFO and CHCO. The goals are to support a modern workforce, enable stakeholders, invest in data/artificial intelligence (AI), and drive IT excellence aligned with agency strategic priorities.



**Priorities:**

- Workforce strategy - bringing in AI/data science skillsets per OPM guidance;
- Budget management - aligning contracts and cloud spending across the new unified IT organization;
- Increasing Federal/interagency engagement via councils like the Federal CIO Council;
- Revamping IT governance processes and metrics;
- Moving to more platform-based operations vs custom development;
- Establishing key focus areas: digital experience, AI, zero trust architecture, data as a service;
- Driving IT excellence;
- Consolidating IT functions spread across the agency into the new OCIO organization;
- Establishing new structures within focus areas: planning/management, engineering/innovation, data/AI, software development, security/operations; and
- Meeting requirements of the CHIPS and Science Act.

**AI Strategy:**

- Partnering with customers to identify high-value AI use cases;
- Piloting responsible AI platforms and assuring a sustainable MLOps ecosystem;
- Leveraging large language models, but not currently authorizing public tools like ChatGPT for core processes like merit review;
- Leveraging generative AI like Microsoft Copilot;
- Building responsible AI governance and guardrails; and
- Aligning data sources to enable better AI/analytics.

**Key Initiatives:**

- Workforce upskilling, especially AI/data science skills;
- Revamping IT governance and metrics;
- Moving to more platform-based operations;
- Enhancing digital experience, AI, zero trust security, and data as a service; and
- Implementing specific initiatives like centralizing device/cloud procurement and piloting machine learning operations (MLOps), etc.

**Challenges:**

- Scaling processes/systems as NSF's mission potentially expands;
- Empowering missions to derive more value from NSF's data;
- Aligning to a few critical enterprise platforms; and
- Implementing AI responsibly at scale with proper controls.

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

*Presenters and Discussants: Dr. Tilak Agerwala, Bill Valdez. Subcommittee members- Ron Bewtra, Dr. Lee Cheatham, Suzette Kent, Dr. Viji Krishnamurthy*

**Dr. Tilak Agerwala:**

Dr. Agerwala provided a brief history of NSF's "Renewing NSF" approach, emphasizing its four key areas aimed at reimagining the agency's future, and introduced the subcommittee members.

**The NSF IT Advisory Subcommittee presented four recommendations to the NSF CIO:**

**Recommendation 1:** The NSF/OCIO should establish an IT function focused on engagement with stakeholders, including strategic planning, consumable budget creation, and communication channels.

**Recommendation 2:** The NSF/OCIO should establish an AI innovation center to:

- Upskill the NSF community in AI;
- Dedicate resources for prototyping, especially for generative AI;
- Implement a verification process for AI outputs; and
- Set and adhere to principles and practices for all NSF AI use cases.

**Recommendation 3:** The NSF/OCIO should focus on IT governance through Federal policies and internal initiatives to develop IT standards and best practices across various areas, including AI, cybersecurity, and data management. The OCIO should lead the effort to set these standards and operating procedures.

**Recommendation 4:** The NSF/OCIO should coordinate with the Chief of Research Security, Strategy and Policy (CRSSP) in the NSF Office of the Director to emphasize security in the end-to-end merit review process by:

- Implementing forward-leaning cybersecurity capabilities in the grant management system.
- Educating grantees about cybersecurity expectations.
- Holding grantees accountable for meeting cybersecurity standards.

**Bill Valdez:**

- Underscored the importance of CIO/IT function engagement proposed in Recommendation 1.
- Highlighted the importance of strategic planning and stakeholder engagement proposed in the three sub-recommendations.
- Emphasized the need for a consumable version of NSF's IT budget along with the importance of communication and redefining key interaction points.
- Emphasized the resource and time constraints faced by Terry Carpenter and advised prioritizing engagement as a crucial function.

**Dr. Ben Brown:**

- Suggested emphasizing risk management, especially the differentiation between research and intramural contexts for AI.
- Proposed highlighting the importance of trustworthy and responsible AI in both contexts.

**Suzette Kent:**

- Agreed with Dr. Brown's suggestion and pointed to the existing AI risk management framework within the government.
- Suggested incorporating the responsibility to interpret and implement the AI risk management framework into Recommendation 2.

**Dr. Viji Krishnamurthy:**

- Agreed with Suzette Kent and suggested adding details about how to evaluate compliance with the risk management framework to Recommendations 2 and 4.
- Overall, her discussion focused on incorporating risk management and responsible AI practices into the NSF's IT strategy.

**Larry Koskinen:**

- Suggested adding "data provenance" to the recommendations about tracking the origin and history of data, which is important for ensuring trust and accountability in AI systems.

**Dr. James Martin:**

- Emphasized the importance of creating an interagency IT committee early on to bring together diverse perspectives and expertise to help guide the NSF's work in AI.

**Discussion on Recommendation Enhancements by Subcommittee Members:**

- Dr. Brown suggested adding a reference to the AI executive order and emphasizing risk management in the recommendation.
- Mr. Valdez proposed adding language regarding rapidly emerging policy data standards and risks, aligning with the AI executive order and subsequent directives.
  - The suggestion was supported by Ms. Kent and Dr. Krishnamurthy, emphasizing the need to acknowledge and align with government directives.
- Ms. Wylie highlighted the significance of the proposed Interagency Committee, emphasizing the value of diverse voices and alignment across NSF.
- Ms. Wylie encouraged Terry Carpenter to consider the committee as an opportunity to foster collaboration and ensure buy-in for future initiatives.
- Mr. Valdez and Dr. Krishnamurthy agreed to update Recommendation 2 to reflect the suggested enhancements.
- The recommendation received support from the committee, acknowledging the potential benefits of bringing stakeholders together.
- Overall, the discussion highlighted the importance of careful planning and collaboration in developing and implementing AI systems.
- The committee focused on ensuring that the NSF's work in AI is done responsibly, transparently, and effectively.

## **Conclusion and Action Items of Subcommittee on NSF's Information Technology and Enterprise Architecture Strategy**

- Dr. Agerwala thanked the committee members for their input and emphasized the importance of incorporating their suggestions into the final recommendations.
- The committee encouraged Terry Carpenter to focus on IT governance through Federal policies and internal initiatives to develop IT standards and best practices across various areas, including AI, cybersecurity, and data management.
- **The committee voted to accept the recommendations in the report with the understanding that the report will be edited for clarity.**

Subcommittee members were unanimous in their belief that significant progress has been made by NSF on the 2022 BOAC recommendations. In particular, the alignment of the OCIO operating structure to the government wide OCIO operating model.

The subcommittee concluded with a commitment to finalize the recommendations with the proposed enhancements and move forward with implementation efforts.

<b>Meeting with Dr. Panchanathan, Director, NSF, and Ms. Teresa Grancorvitz, Deputy Chief Operating Officer</b>
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### **Dr. Joe Mitchell:**

- Provided insights on organizational health based on the work at the National Academy of Public Administration;
- Discussed challenges faced by government agencies, such as budget issues and organizational resiliency;
- Emphasized the importance of pulse surveys and employee viewpoint surveys for identifying areas of improvement; and
- Applauded NSF's great work in organizational health, including inclusion, alignment, agility, accountability, and leadership.

### **Dr. Panchanathan:**

Dr. Panchanathan highlighted the agency's efforts in some of the areas mentioned, such as the creation of the OCIO and the focus on AI activities, and noted the following NSF highlights and accomplishments:

- Debut of the regional innovation engines, a program that has launched 60 innovation hubs across the nation to seed and cultivate innovation through partnerships, teams, and place-based activities;
- Establishment of programs to expand research access for underrepresented institutions;
- Partnering with industry and other agencies to leverage resources and advance NSF's goals;
- Launch of the National AI Research Resource Pilot to provide researchers with access to computing, data, and other resources;
- Establishment of 25 AI Institutes focusing on different topical areas;

- Emphasized that NSF is moving towards a more opportunistic, agile, and user-focused approach to achieve its goals and deliver for the nation;
- Underscored the importance of fostering a sense of belonging, professional development, and work-life balance for employees;
- Addressed challenges in transitioning back to hybrid work mode post-COVID;
- Stressed the need to establish the value proposition for employees returning to the office and enriching their sense of belonging;
- Highlighted efforts to improve organizational culture through individual conversations and engagement with units to drive innovation;
- Reiterated NSF's commitment to being a learning organization;
- Discussed the creation of an AI Innovation Center to drive end-to-end AI development;
- Highlighted the need for proper IT governance and risk management in the rapidly changing technological landscape;
- Acknowledged the success of the OCIO in aligning agency leaders and attracting talent like Terry Carpenter; and
- Expressed the importance of following up on implementation of recommendations from the subcommittee's report.

<b>Closing Notes</b>
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- Dr. Agerwala thanked Dr. Panchanathan for his leadership and expressed optimism about the agency's direction.
- Mr. Mayo thanked Dr. Panchanathan for his leadership.
- Dr. Panchanathan thanked the committee for their contributions and reiterated NSF's commitment to continuous improvement.
- Dr. Panchanathan expressed appreciation for the recommendations and emphasized the importance of AI innovation within the agency.
- Ms. Grancorvitz, who is retiring from NSF, thanked the subcommittee members for their time and commitment and acknowledged the value of their recommendations. She highlighted how some of the recommendations, such as those from the subcommittee on IT, have been instrumental in shaping the agency's strategy and direction.

The meeting concluded with the subcommittee members and NSF staff expressing their appreciation for each other's service and ended on a positive note with a commitment to continue driving progress and innovation within the agency.