

# Summary of Recommendations and a Vision for the Future

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A profound dedication to the mission and a deep commitment to a shared vision energized the AAPI workshop proceedings. Attention was focused on issues vital to Asian Americans and Pacific Islanders, especially as they relate to science, technology, engineering and mathematics in education and the workforce. Areas of strength and areas of challenge were identified and prioritized. As esteemed colleagues engaged in professional discourse and proactive collaboration, a solid foundation was established on which further successes can be structured. Insightful recommendations ensued, each with the potential of guiding individuals, projects, programs, and foundations as comprehensive plans to address the diverse needs of Asian Americans and Pacific Islanders are designed and implemented.

Representatives of the Asian American and Pacific Islander communities were in general accord as they shared their views. Dr. Indira Nair stressed that supporting the AAPI community is about building a culture and climate that honors diversity and aspires to a natural state of inclusion in the greater community. Her views prompted discussion as to the importance of focusing on the domestic needs of inclusion in the STEM community rather than solely on the more alluring global focus that is popular at any given moment. Dr. Nirmala Kannankutty emphasized the range of diversity in the AAPI groups and pointed out that this diversity engenders diverse needs, especially as they pertain to underrepresented groups within the broad AAPI label. Dr. Jeffrey Chen spoke to the importance of Asian Americans and Pacific Islanders identifying and then bridging the cultural and social barriers to their own success. He expressed his views as an advocate of mentoring and coaching programs designed to guide Asian Americans and Pacific Islanders towards greater success in education and industry. Dr. Paul Kingery shared his concerns regarding AAPI representation and indicated that institutional barriers are significant and must be identified and acknowledged before they can be adequately addressed. He emphasized the need to refrain from considering Asian Americans and Pacific Islanders as a broad group, pointing out that to do so underestimates the significant achievement by some subpopulations and overestimates the success of others.

Collaborative sharing and reflective insight during the breakout sessions led to the following general recommendations:

- Identify and address issues specific to individual Asian American and Pacific Islander sub-groups, differentiating their needs to serve those who need guidance and support to succeed as well as those who are already successful and will benefit from guidance and support to develop as leaders.
- Identify culturally context-based challenges pertaining to science, technology, engineering, and math in education and in the workforce and provide support for proactive and innovative programs addressing these challenges.

- Fund and promote diverse projects that support dynamic infrastructure for K-12 science, math and technology to facilitate successful student learning and provide relevant professional development for teachers, counselors, and administrators, especially in underserved areas.
- Fund and promote undergraduate and graduate programs, including enhanced AAPI internship and fellowship programs that collaborate with K-12 students and teachers, with the goal of improving STEM content knowledge and process skills for all participants.
- Encourage and facilitate collaboration among community colleges, regional colleges, and regional universities to build partnerships with research universities that will lead to greater impact in areas such as proposal writing, mentoring, professional development, program development, student achievement, and availability of resources, especially in AAPI communities.
- Encourage and facilitate partnerships between school systems and the workforce community to foster a 'cradle to grave' concept of science, technology, engineering, and mathematics, especially in underrepresented AAPI areas.
- Support and guide teacher preparation and retention programs, targeting areas that serve Asian Americans and Pacific Islanders, ensuring that administrators and teachers understand and effectively address the individual and cultural needs of their students as they tend to diverse academic needs.
- Facilitate and support the development of local and regional science centers, mobile resources, summer camps, and online programs for K-12 students and teachers, emphasizing local environments and cultures while showing relevant connections between science and daily life.
- Continue to develop NSF as the front-runner in diversity issues by setting the standard for proactive mentoring, staff support, and staff advancement, while promoting accessibility to a wide range of opportunities for all.
- Promote AAPI participation in all NSF programs through the development and support of regional seminars, workshops, and outreach programs.
- Review NSF's Requests for Proposals to ensure that they are linguistically appropriate and explicit in Review Criteria, to enhance AAPI participation.
- Provide NSF support and funding to hold a mini-conference, commissioning specialists such as those participating in the AAPI Workshop to study specific locales using the profiles generated to support statistical analysis. There is an identified need for both statistical analysis and detailed profiles that can look at the processes of learning and the difficulties of delivering services.

- Develop and support a clearinghouse, with an inventory showing the latest research and data, to identify the kinds of indicators that are affecting particular parts of the AAPI population. Provide meta-analysis to assist in visualizing the effect size and the sample size of those studies. In considering quantifying data relating to Asian American and Pacific Islander research and issues, be aware that caution must be taken to consider the effect that culture might have on data collection and reporting. Ensure that policy recommendations are based on data and analysis.
- Utilize currently funded research, such as Math Science Partnerships (MSP), while proactively seeking out, promoting, and recruiting AAPI candidates for future opportunities.
- Increase the awareness of positive role models from AAPI communities through an ongoing, targeted, and progressive media campaign.
- Develop and sustain NSF-supported research to determine why so few Asian Americans and Pacific Islanders become teachers, while developing effective strategies and incentives to promote teaching as a positive and viable career option, addressing both recruitment and retention issues.
- Establish effective communication networks and monitor the efforts resulting from AAPI workshops in order to progress with this vision.
- Actions AAPI individuals and groups might consider to promote their cause include:
  - Join the American Educational Research Association (AERA) AAPI Special Interest Groups.
  - Utilize the NSF/AERA Research Fellows Program.
  - Submit workshop surveys with suggestions and comments.
  - Serve as an NSF principal investigator, panelist, mail reviewer, committee member, fellow, or employee.
  - Submit unsolicited proposals that address AAPI issues and concerns.

A Japanese proverb claims that vision without action is merely a daydream. The focus of the AAPI workshop was to share the vision and call for a plan of action. As Dr. Joseph Bordogna stated in his opening remarks, the success of the nation's future depends on attracting all members of its diverse population to careers in science and engineering. He pointed out that if the science and engineering workforce is not representative of the domestic population, the nation will miss the most promising opportunity for success.

