



OFFICE OF GOVERNMENT AND PUBLIC AFFAIRS  
1436 Duke Street • Alexandria, VA 22314  
www.populationassociation.org • www.popcenters.org • 301-565-6710 x 1006



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July 27, 2023

Erwin Gianchandani, Ph.D.  
Assistant Director  
Directorate for Technology, Innovation and Partnerships  
National Science Foundation  
2415 Eisenhower Avenue  
Alexandria, VA 22314

Re: [RFI on Developing a Roadmap for the Directorate for Technology, Innovation, and Partnerships at the National Science Foundation](#)

Dear Dr. Gianchandani:

Thank you for the opportunity to provide comments to inform the development of a roadmap for the Technology, Innovation, and Partnerships (TIP) Directorate for the next three years. On behalf of the organizations that we lead, the Population Association of America (PAA) and Association of Population Centers (APC), we are pleased to submit comments for your consideration on how the population sciences can advance TIP's goals and further the impact of "use-inspired research."

PAA and APC are two affiliated organizations comprising over 3,000 behavioral and social scientists, including demographers, sociologists, economists, and epidemiologists, who conduct research on the causes and consequences of population change and more than 40 federally funded population research centers nationwide. Population scientists have diverse research interests including aging, adolescent health, fertility, immigration and migration, health disparities, labor force dynamics, mortality, and population forecasting. The National Science Foundation (NSF), especially the Social, Behavioral and Economic Directorate, is a critical source of support for the population research community. In addition to funding individual research projects, NSF funds large data infrastructure projects important to the population research community, including the Panel Study of Income Dynamics, the General Social Survey, and the Census Bureau Research Data Centers.

**General Comments**

**Inclusion of population research**—The vital challenges identified by the TIP Directorate will only be met and answered with a full understanding of the fundamental social and behavioral sciences which can explain their human and societal causes and consequences. Population research and researchers represent a full range of social and behavioral scientists who can make

invaluable contributions to the TIP Directorate's success and should be engaged from the start. In order to make the greatest contribution, it is imperative that future TIP funding announcements explicitly encourage the participation of population scientists. While we have no reason to believe the Directorate will exclude population scientists from future funding announcements and initiatives, we are compelled to reiterate how vital it is for TIP to facilitate opportunities for population scientists to engage with the Directorate both as individuals and as members of multidisciplinary research teams. Central to TIP's success will be its ability to stimulate partnerships among all fields of science and technology, including the social and behavioral sciences.

**Advisory Committee**--PAA and APC join other social and behavioral research advocacy organizations in urging TIP to establish an advisory committee that includes representation from the social and behavioral research community. The Directorate would benefit from having advisors who can assist with determining its research priorities and developing initiatives.

#### **Comments on Requested Topics in RFI**

Our comments below address targeted topics in the RFI.

***Prioritization**--What evidence exists that should guide NSF in determining priorities across the technologies listed above in advancing or maintaining U.S. competitiveness? Within each technology area, are there critical use-inspired and translational research topics that should be prioritized for NSF investment in a 1- to 3-year time frame?*

Population scientists are on the cusp of making important advances in our knowledge of, and applications, integrating critical technology areas to improve human welfare and well-being. To further scientific progress, it would be invaluable to prioritize significant investments in the following key technology areas as listed in the RFI:

- (1) Artificial intelligence, machine learning, autonomy, and related advances.
- (2) High performance computing, semiconductors, and advanced computer hardware and software
- 5) Natural and anthropogenic disaster prevention or mitigation.
- (6) Advanced communications technology and immersive technology.
- (7) Biotechnology, medical technology, genomics, and synthetic biology.
- (8) Data storage, data management, distributed ledger technologies, and cybersecurity, including biometrics.

All these are areas where innovative methodological and applied research is happening in social sciences and demography, as well as where crucial policy, ethical, and futurist approaches can be best informed or evaluated by population scientists.

***Addressing societal challenges***--*Considering the ways each of the key technology focus areas will impact each of the societal, national, and geostrategic challenges, which of the technology areas should receive investment priority and why?*

In response to this question, our organizations prioritize the following areas as listed in the RFI:

- (1) Artificial intelligence, machine learning, autonomy, and related advances
- (5) Natural and anthropogenic disaster prevention or mitigation
- (6) Advanced communications technology and immersive technology
- (7) Biotechnology, medical technology, genomics, and synthetic biology

Once again, these are areas in which population scientists have made significant contributions and with additional support could accelerate scientific progress.

***Crosscutting investments***--*What translational research investments can be made to drive innovation by addressing critical needs common to multiple technology focus areas?*

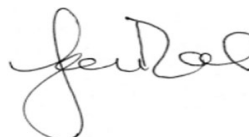
Investment in key technology areas identified in our previous responses will address “Climate Change and Environmental Sustainability” and “Inequitable Access to Education, Opportunity, or Other Services”—two of the five “Societal, National, and Geostrategic Challenges” outlined in the RFI.

Thank you for considering our views. We look forward to working with you and your colleagues.

Sincerely,



Dr. Lisa Berkman  
2023 PAA President



Dr. Jennie Brand  
2023-2024 APC President