

Background on the National Academy of Sciences

The National Academy of Sciences (NAS) was founded on March 3, 1863, by an Act of Congress signed by President Lincoln. The NAS was established as a private institution to counsel the U.S. government on science and technology related issues, in order to inform public policymaking.¹ One of the main obligations of the NAS was and is to assist the Secretary of Defense in national defense research, especially during times of war.² However, the National Academy of Sciences also adopts other initiatives relevant to the needs of the U.S. For example, the NAS organized fifty projects in 1930 under the committees of “Highway Research (since 1921), Welding Research (1921), Electrical Insulation (1922), Heat Transmission (1923), and Industrial Lighting (1924).”³

In 1916, the NAS instituted the National Research Council, expanding the NAS by recruiting scientific and technological experts from the public. The council is in charge of coordinating the research of scientists and engineers across “universities, industry, and government.”⁴

The NAS has coordinated U.S. efforts and participation in international programs, such as the 1957-1958 International Geophysical Year, the 1964-1974 International Biological Program, and the 1986-2015 International Geosphere-Biosphere.⁵

Under the charter of the NAS, the National Academy of Engineering and National Academy of Medicine were established in 1964 and 1970, respectively. Today, science experts are inducted into the NAS through nominations and elections conducted by current members—there is no application process. At present, the NAS has approximately 2,700 U.S. members and 500 international members, of which about 200 are Nobel Prize laureates.⁶

According to its mission statement, the NAS recognizes and advances exceptional scientific research, encourages the public’s general knowledge of science, and oversees the National Research Council. It lists its founding principles as objectivity, independence, and excellence.⁷

The Academy has been a prominent voice in the discourse surrounding the role of Artificial Intelligence (AI) in scientific exploration. While the NAS recognizes the benefits of generative AI in accelerating scientific discovery, it also acknowledges the challenges it poses to the tenets of science: accountability, replicability, transparency, and human responsibility. In the editorial,

¹ “Organization,” National Academy of Sciences, accessed March 21, 2025, <https://www.nasonline.org/about-the-nas/organization/>.

² National Academy of Sciences (US), *The National Academy of Sciences: The First Hundred Years 1863–1963* (Washington D.C.: National Academies Press, 1978), doi:10.17226/579.

³ National Academy of Sciences (US), *The National Academy of Sciences*.

⁴ The Editors of Encyclopaedia Britannica, “National Academy of Sciences,” Encyclopaedia Britannica, December 9, 2024, <https://www.britannica.com/topic/National-Academy-of-Sciences-American-organization>.

⁵ Encyclopaedia Britannica, “National Academy of Sciences.”

⁶ “About the NAS,” National Academy of Sciences, accessed March 21, 2025, <https://www.nasonline.org/about-the-nas/>.

⁷ National Academy of Sciences, “Organization.”

“Protecting scientific integrity in an age of generative AI,” published in the *Proceedings of the National Academy of Sciences*, the 24 authors, assembled by the NAS, suggested the formation of a “Strategic Council on the Responsible Use of AI in Science.” This council would be dedicated to overseeing the application of AI in science and addressing concerns, particularly issues pertaining to ethics and equity.⁸

⁸ National Academies, “Human Accountability and Responsibility Needed to Protect Scientific Integrity in an Age of AI, Says New Editorial,” news release, May 21, 2024, <https://www.nationalacademies.org/news/2024/05/human-accountability-and-responsibility-needed-to-protect-scientific-integrity-in-an-age-of-ai-says-new-editorial>.