



American Society for Microbiology Policy Principles

Preamble

The American Society for Microbiology recognizes the essential role of public policy in advancing microbial science as a cross-cutting and global endeavor. Microbiology transcends government agencies and borders, and continued advancement in the field requires adherence to certain core policy principles.

ASM is committed to advocating for public policies that are rooted in science. We recognize the essential role of the microbial sciences in helping to address humanity's most daunting – and evolving – challenges. We strive to better understand diseases and conditions affecting humans, plants and animals and microbial communities that play a critical beneficial role in everything from wastewater treatment to food production to the development of lifesaving drugs.

As a core part of its mission, ASM leads, collaborates and galvanizes scientists, stakeholders and the public across multiple sectors and at multiple levels to advance the field through evidence-based public policy. Therefore, the Society has set forth a broad-based policy framework to guide our work and that spans the areas in which microbiology intersects with public policy: from health, to agriculture, to energy and the environment, to biodefense. All this must be done while promoting a culture where science can thrive.

We advocate for funding that reflects the tremendous scientific opportunities to fuel discoveries and build a vibrant bioeconomy. We promote researchers at all levels, and support infrastructure and training for the next generation of researchers who will continue to drive economic activity around the globe. We believe a diverse, inclusive research environment will lead to better science and discoveries and advances that will benefit all of humankind.



Fundamental Microbial Sciences and Discovery

To advance the fundamental (also referred to as basic) microbial sciences and their broad applications now and in the future, ASM will advocate for the following:

- Robust, sustained and predictable funding for federal agencies and programs that support the fundamental microbial sciences. Funding from local and state government entities, as well as through the private sector, plays an important role and can supplement federal funding for the microbial sciences.
- Policies that promote education, training and support for a diverse scientific workforce, recognizing that researchers from diverse backgrounds lead to stronger science.
- Policies that support investigators at all levels, but especially early career researchers, who are often responsible for innovative science and yet often have more difficulty getting funded in times of constrained resources.
- Policies that recognize the importance of and support both investigator-initiated research and team science. Research on cross-cutting, transformative topics, requires global and multi-disciplinary collaborations and convergence of scientific disciplines.
- Public policies that support a productive, inclusive research environment and encourage exchange of ideas, including through professional meetings, publications, and by engaging with professional societies.
- Policies that recognize that global collaborations are an essential element for advancing modern science.



Microbes and Health

To advance the microbial sciences and their application to human health now and in the future, ASM will advocate for the following:

- Robust, sustained and predictable funding for medical research.
- Robust funding for public health agencies, including continued funding and support for current and future advances in public health surveillance of infectious diseases and countermeasures.
- A “One Health” approach to antimicrobial resistance to stem the growing problem in the United States and around the world.
 - Accelerate research, improve laboratory capacity in developing countries, strengthen global health infrastructures, promote antibiotic stewardship, and establish a global surveillance system to inform realistic, defensive action plans to combat the spread of antimicrobial resistant organisms and to evaluate the impact of these intervention measures.
 - Support marketplace incentives to foster the development and marketing of new diagnostics and therapies to provide for the public health and patient benefit.
- Enhanced international cooperation and diplomacy, such as data sharing, intellectual property agreements and establishing sites for clinical trials and research. Addressing these barriers will prevent delays in responding to epidemics worldwide.
- Recognition of the overwhelming scientific evidence that vaccines save and improve lives. Continued investment in the development of vaccines, as well as effective deployment of evidence-based public preventive strategies and education to protect against existing and re-emerging diseases.
- Policies that engage public-private partnerships and facilitate interdisciplinary collaborations to address emerging and re-emerging infectious diseases.
- Policies that recognize the value of clinical microbiology and the importance of infectious disease testing and diagnosis in animals and humans.



Microbes in Agriculture

To advance the microbial sciences in agriculture policy now and in the future, ASM will advocate for the following:

- Robust funding for basic, translational and applied agricultural research and regulatory science, including support for research that enhances the health of animals, plants and the environment; provides infectious diseases surveillance and develops interventions to ensure food and water safety
- Policies that utilize the integral role the plant, animal, soil and water microbiomes play in a healthy and economic supply of food, fiber and a well-functioning agroecosystem
- Support for publicly-funded programs that provide critical human resources and infrastructure needed to deploy new knowledge and technologies in the field.
- Advancement of policies that foster a diverse agricultural and extension workforce of tomorrow, recognizing the multi-disciplinary nature of microbial and agricultural research.
- Greater consensus on and communication concerning policy changes governing antimicrobial stewardship in both agriculture and medicine. ASM believes a One Health approach to antimicrobial resistance is best to tackle this serious public health challenge and requires collaboration between government entities focused on both human health and agriculture.
- Implementation of policies that will advance mechanisms to translate basic research findings to real world, scalable market-based solutions. This will require federal incentives for the continued refinement of technologies, and policies that promote the commercialization of these technologies.
- Support for policies that promote research on environmentally sustainable agricultural practices, and policies that facilitate implementation of these practices.



Biosecurity / Biodefense

To advance the microbial sciences and their application to biosecurity and biodefense now and in the future, ASM will advocate for the following:

- Robust, sustained and predictable funding for federal, state and local agencies to effectively detect and respond to global threats and outbreaks.
- Support for surveillance of bioterrorism and microbes that can be weaponized.
- Recognition of the role of both biodefense programs and public health as critical to global health security.
- Policies that facilitate education, training and support in biosecurity, biodefense and biosafety.
- Policies that promote the responsible and secure conduct of biodefense research in accordance with biosafety protocols.
- Evidence-based policy making that draws from scientific expertise both inside and outside of governmental agencies to address the security implications of existing, emerging and reemerging health threats such as infectious diseases; promote the appropriate use of technology; anticipate and mitigate risks from emerging and disruptive technologies; and support surveillance and reporting systems.
- Policies that facilitate productive engagement among global partners.



Microbes, Energy, and the Environment

To advance the microbial sciences in energy and the environment now and in the future, ASM will advocate for the following:

- Implementation of policies that facilitate the translation of research into scalable engineering and environmental mechanisms that use microbes to solve energy and environmental problems, and to meet challenges we face in the 21st Century such as climate change.
- Robust, sustained investment in publicly-funded basic and translational research in the environmental and energy fields through multiple agencies, which is critical to advancing this important area of the microbial sciences.
- Deployment of effective communication and engagement strategies to convey the importance of the microbial sciences to the natural and built environments, and to climate change and alternative energy sources.
- Policy interventions to reduce exposure to harmful microbes and decrease degradation of environments that host beneficial microbes.
- The identification and development of infrastructural resources, improved data collection and curation and the development of empirical, computational and mechanistic modeling tools to improve understanding, prediction and management.



Promoting a Culture for Scientific Advancement

To promote a culture of scientific advancement, ASM will advocate for the following:

- Robust, sustained and predictable funding increases for agencies and programs that support the basic, translational, clinical and applied microbial sciences.
- In recognition of the essential role of the microbial sciences in the emerging bioeconomy, policies that support the development of infrastructure resources, improved data collection and curation, and technologies that allow experts in different fields to make important contributions to the development of microbial and other systems.
- Policies that embrace and promote diversity, equity and inclusion in science because doing so leads to better science and greater scientific advancement. Policies should allow for equal advancement of women and underrepresented minorities in STEM careers.
- Affirmative steps to address and eliminate discrimination and harassment at all levels and on the basis of race, religion, gender, sexuality, nationality, class, education, disability and/or social position.
- In recognition that scientific advancement is a global pursuit, public policies that allow and encourage formal and informal scientific collaboration regardless of national boundaries. At the same time, the integrity of publicly-funded research enterprise must be protected against misuse.
- Public policies that balance the preservation of scientific freedom with protection of national security and economic interests.
- Primary, secondary and university curricula based on sound, rigorous science, as opposed to politics or personal beliefs. Curricula must also provide students with a deep understanding of the role of the microbial sciences in the global challenges they face and prepare them to creatively, ethically and innovatively solve problems at all levels.
- Support for early-stage investigators, which is essential to fostering the discoveries and advancements of tomorrow. The fresh ideas that have led to some of the greatest scientific discoveries have occurred early in one's scientific career; therefore, policies should ensure robust support for early-stage investigators.
- Encouragement of widespread access and distribution of high-quality peer reviewed research. Scientific societies and the editorial functions of society journals play an indispensable role in developing and curating accessible scientific information.
- Safeguarding of the peer review process, and the recognition that peer review is an integral part of the scientific process and should be protected from non-scientific considerations.