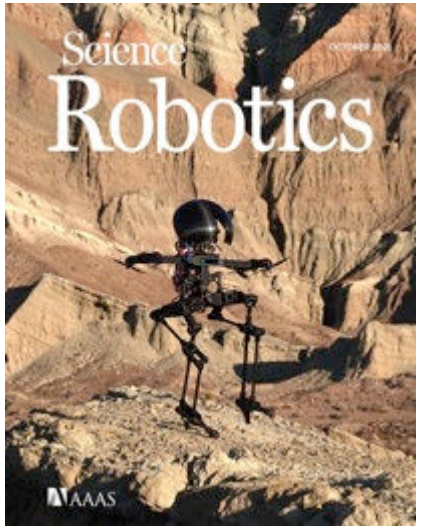
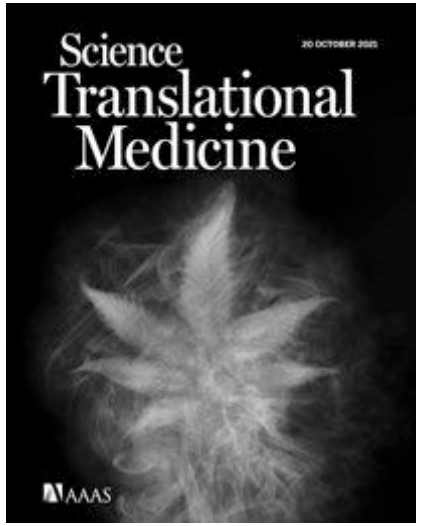
Using Data to Convey Policy Positions

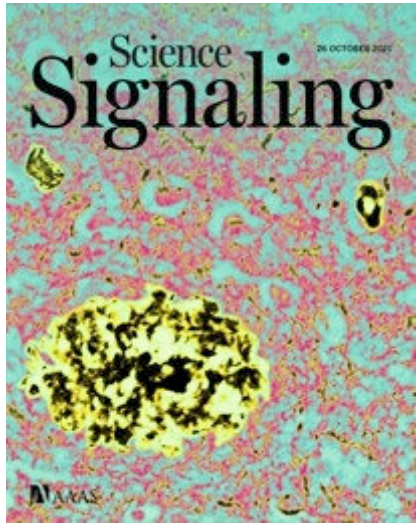
The mission of AAAS is to advance science, engineering, and innovation throughout the world for the benefit of all

Advancing Science, Serving Society

Nonprofit Publisher of the *Science* Family of Journals







87 scientists founded AAAS at the Academy of Natural Sciences in Philadelphia

1848

1874

First class of AAAS Honorary Fellows

1900

Science
AAAS

Arden House: The first time AAAS updated its governance structure

1923

First award established

1951

1973

AAAS | Science & Technology Policy Fellowships

First class

1975

The Double Bind: The Price of Being a Minority Woman in Science

Shirley Mahaley Malcom
Paula Quick Hall
Janet Welsh Brown

2010

New frontiers in science diplomacy

Navigating the changing balance of power

January 2010

2022

AAAS Governance Modernization Project

2023

AAAS
IGNITING PROGRESS FOR THE NEXT 175

STEMM OPPORTUNITY ALLIANCE

AAAS & POLICY

We are leading the charge to ensure the proper use of scientific evidence in all aspects of decision making and policymaking, including in local, state, federal and international policies.

We also produce evidence-based science and technology updates, including analyses of federal investments in science and engineering research and development.

THE COMMUNICATIONS APPROACH

Objectives

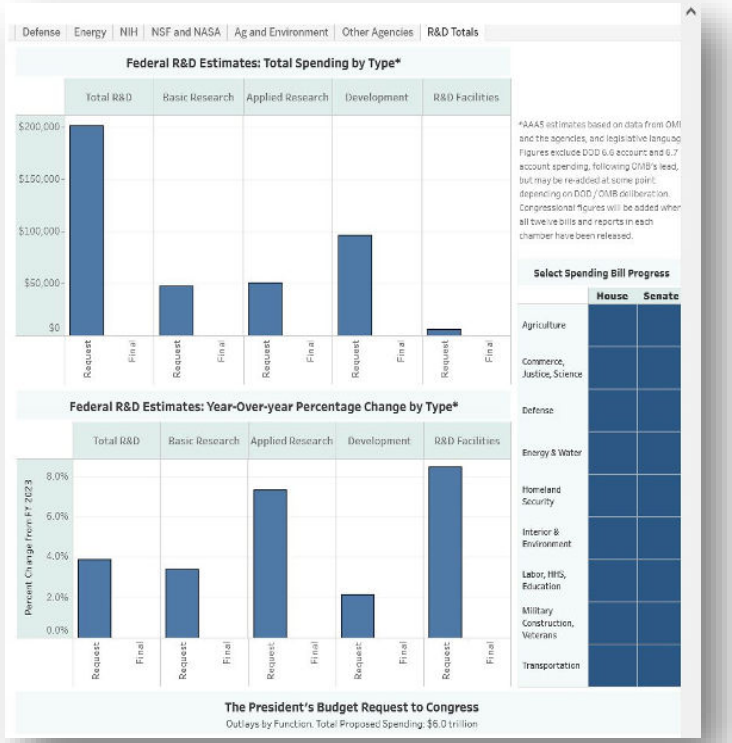
- Position AAAS as a leading nonpartisan representative voice of the scientific enterprise
- Promote the role of science in addressing complex societal challenges
- Make the case that a more diverse, equitable and inclusive scientific enterprise benefits society and fosters scientific excellence

Our Vision

• From organizational news amplifier	⊖ To thought leadership driver
• From influencing policy behind the scenes	⊖ To shaping public and private policy debates
• From reactive media relations	⊖ To proactive news engine

R&D BUDGET & POLICY PROGRAM

BEFORE



AFTER

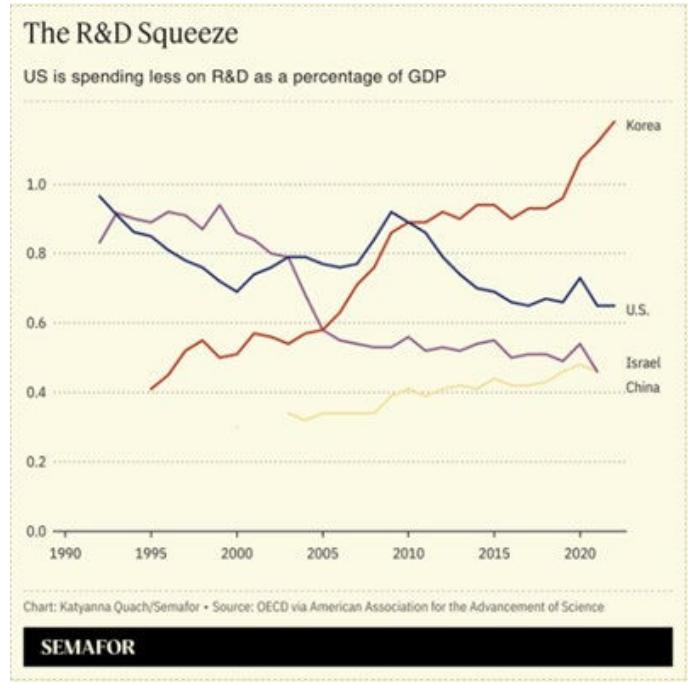
THE Times Higher Education

Biden open access order under threat from Republican budget bill

The draft federal budget written by House Republicans would increase overall research and development spending by 19 per cent, while its counterpart in the Democrat-controlled Senate would cut it by 4 per cent, according to analysis provided by the American Association for the Advancement of Science.

The House version, however, would sharply cut some key parts of National Institutes of Health and the National Science Foundation, while primarily reserving increases for military accounts. Both the House and Senate versions "would make drastic cuts to basic research – 51 per cent and 48 per cent respectively in FY 2024", said Joanne Padrón Carney, the association's chief government relations officer.

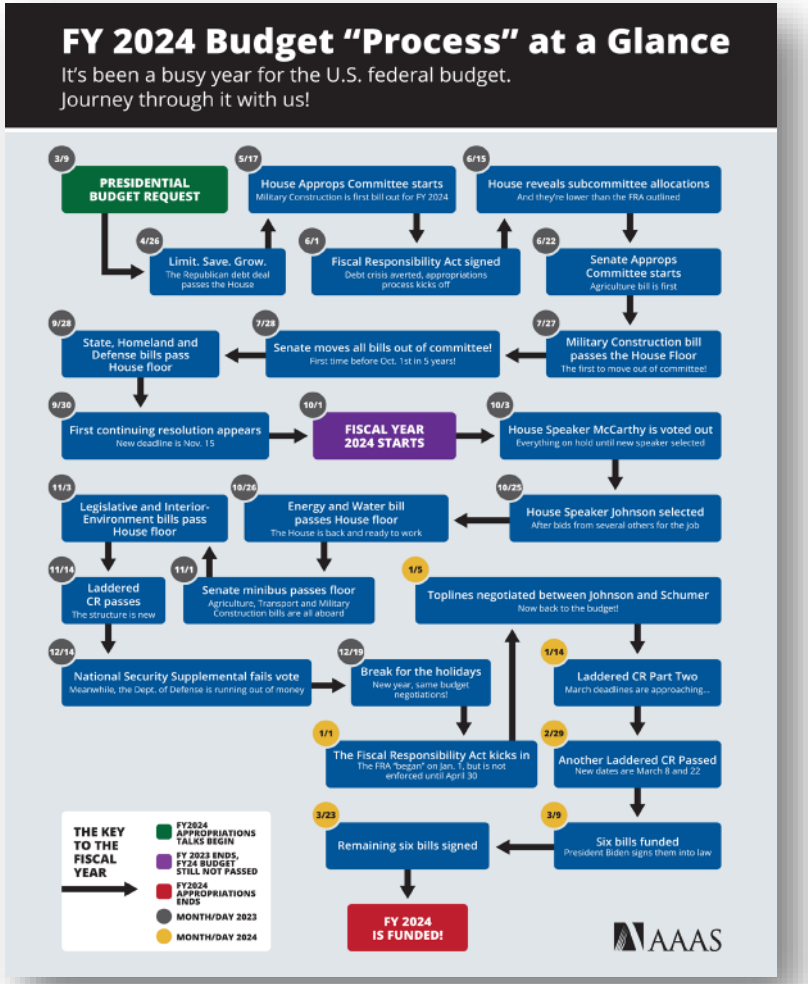
SEMAFOR Technology



The American Association for the Advancement of Science published new data Tuesday on global R&D spending and by one measure, Silicon Valley should be slightly worried. The percentage of GDP the US government spends on R&D has dropped to pre-pandemic levels, putting it in 12th place globally.

R&D BUDGET & POLICY PROGRAM

When public affairs, government relations and branding collaborate:



R&D BUDGET & POLICY PROGRAM

POLITICOPRO

Budget & Appropriations Brief

BY CAITLIN EMMA

With help from Jordain Carney

QUICK FIX

APPROPRIATIONS

THE R&D RUNDOWN: The nonprofit American Association for the Advancement of Science, or AAAS, is out with a new analysis of the House and Senate's fiscal 2024 plans for federal agencies that deal heavily in research and development. Of note, the National Institutes of Health's Institute of Allergy and Infectious Diseases and Office of the Director are facing significant cuts proposed by House Republicans, at 20 percent and 25 percent respectively compared to current funding, which would bring both programs down to funding levels last seen in fiscal 2018. Senate appropriators, meanwhile, would return the National Institute of Standards and Technology to "pre-CHIPS and Science Act funding levels, with a 39 percent decrease compared to last year's appropriations."

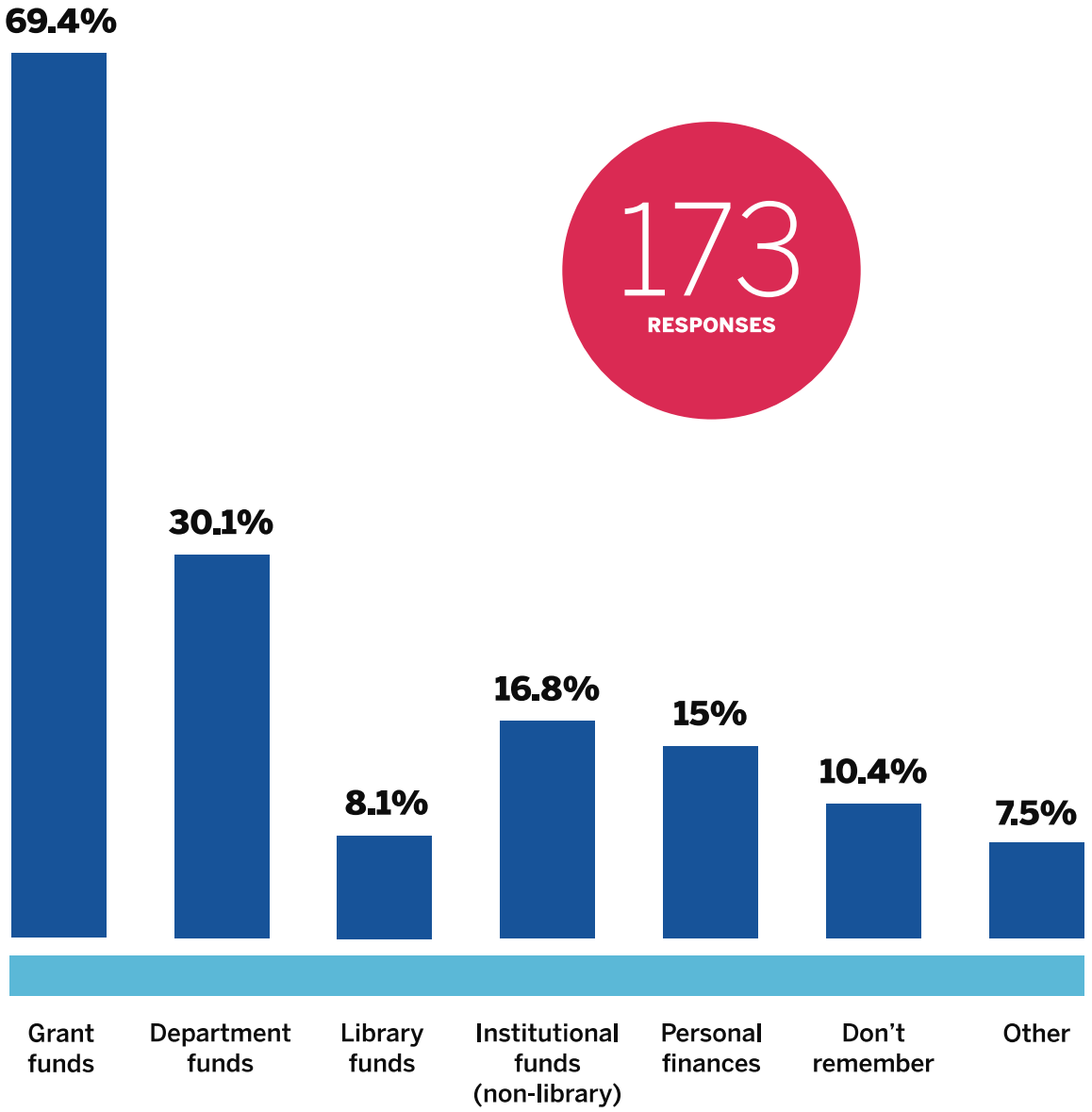
OPEN ACCESS (PUBLISHING MODELS)

We look at open access through the lens of our 120,000 scientist and engineer members – the scientific enterprise

- Open access to scientific information is important
- Open access to useful information is critically important
- Communication of accurate understandable science with every audience is paramount
- Some current models of open access are fatally flawed

Most researchers are using grant funds to pay APCs – and women are more likely to use grant funds than men

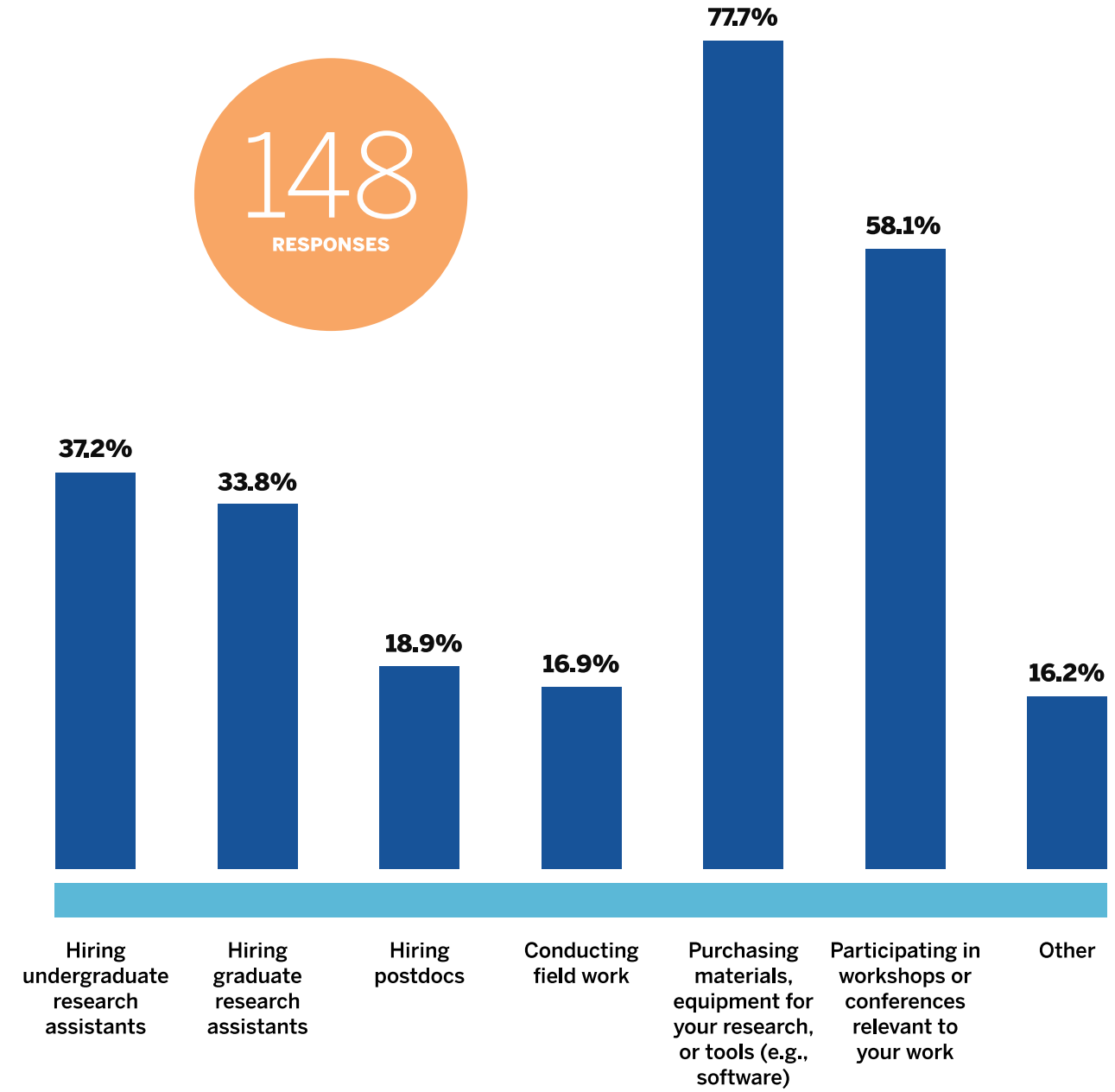
Women were **nearly three times** as likely as men to have paid APCs using grant funds ($p<0.05$).*



*Adjusting for race, length of time conducting research, and institution size

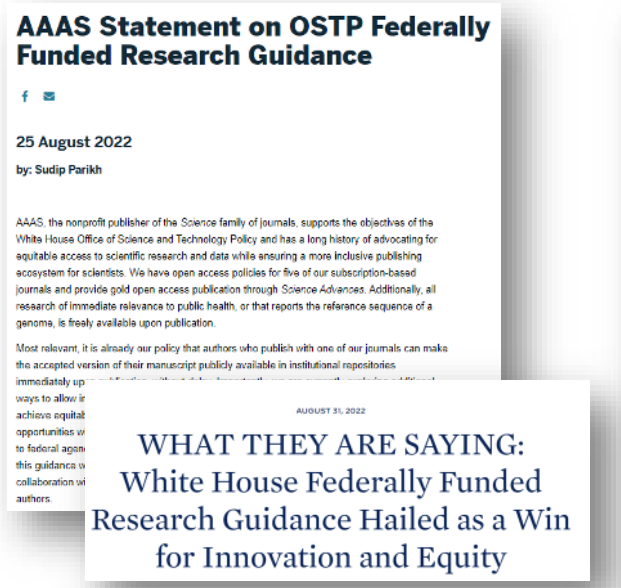
APCs create significant tradeoffs – and women appear to make tradeoffs more frequently than men

Compared with men, women were more than **2.5 times** as likely not to attend workshops and conferences so that they could pay APCs ($p<0.05$).*



*Adjusting for race, length of time conducting research, and institution size

EQUITABLE ACCESS FOR AUTHORS



Member COMMUNITY AAAS

AIP · CHIEF HEALTHCARE EXECUTIVE · Science · nature · STAT · LJ LIBRARY JOURNAL

ars TECHNICA · THE Times Higher Education · STMPublishing News · THE SCHOLARLY kitchen

Leading on Equitable Access for Authors to Publish Open Access

Comments to Draft Agency Plans

NASA

NIH National Institutes of Health

Co-Hosted Webinar with NSF

Thought Leadership

EDITORIAL

Public access is not equal access

On 25 August, the White House Office of Science and Technology Policy provided guidance for scientific publishing aimed at making publications and their supporting data—the products of federally funded research—publicly available without an embargo by the end of 2025. The American Association for the Advancement of Science (AAAS, the publisher of *Science* and the *Science* family of journals) strongly supports this guidance. As written, several paths to public access remain possible. It will matter greatly to the scientific enterprise which become predominant.

As a scientific membership organization, AAAS looks at public access through the lens of scientists and engineers. We have experimented with various public access models over the past decade. The *Science* family has free subscription journals that libraries pay for access to content, and one journal for which authors pay an "article processing charge" to make the version of record of their paper freely available ("gold open access (OA)"). All six journals publish excellent science and influential analyses, but their sustainability models differ. Each model supports the high quality that authors, readers, librarians, and funders expect us to provide through rigorous peer review shepherded by professional editors, careful editing, access to all relevant data, striking and informative visuals, and an engaging website. Importantly, we put substantial post-publication resources into preventing misinformation by informing accurate coverage of research through mainstream and social media.

From our experience, open and accessible data are essential to scientific integrity and reproducibility, and we require this accessibility immediately upon publication. Public access to trusted scientific information is also important, and situationally appropriate communication of accurate and understandable science with every audience is paramount. When any reader is unable to separate wheat from chaff, we must help by providing expertise to sift well-done from poorly done science.

Public access should foster a diverse universe of authors and readers regardless of their economic circumstances. This drives scientific excellence and public understanding. Some models for public access are bad for inclusivity. Gold OA journals, for which authors pay publication charges, work for senior scientists who are well-funded, tenured, and overwhelmingly male and white, but not so much for early-career scientists who may be poorly funded, not yet tenured, and much more diverse. Also disadvantaged are scientists at smaller schools, including historically Black colleges and universities, and in underfunded disciplines like math and the social sciences. Although it enables "open access" to readers, this model can be inequitable for many scientists and institutions.

Gold OA damages the scientific enterprise when it incentivizes a volume business model in which every paper is a quantum of revenue that must be published somewhere in a publisher's ecosystem. The perverse incentive for publishers is to accept more papers, which furthers academia's publish-or-perish mindset, makes predatory publishing more enticing, and dilutes the scientific literature. As a publisher of a gold OA journal, we've made the costly decision to maintain editorial quality and not accept papers just to meet financial targets—but we understand the temptation.

> "Public access should foster a diverse universe of authors and readers..."

As a scientific membership society, AAAS seeks the best path forward for the enterprise it serves. We are actively seeking to balance the tensions between equitable access for readers and equitable access to publishing. As such, *Science* is made available through progressively priced licenses whereby larger, more research-intensive institutions pay more. We will soon provide immediate public access to all taxpayer-funded research through a policy called "green OA-zero day," which allows *Science* authors to post their "author accepted manuscript" (a fully peer-reviewed and revised version), without delay or incurring additional fees, in a public repository of their choice. This approach allows immediate public access without requiring authors to pay a publication charge, while maintaining the ability of *Science* to fulfill its mission of communicating groundbreaking research discoveries and illuminating the impact of research on society.

AAAS recognizes that its approach is not perfect and may not work for all journals, so we continue to explore other ideas. We are eager to work with the White House, funding agencies, and anyone else to implement policies that optimize equity for authors and readers. In the meantime, our approach ensures that world-changing science is published and placed into the public realm regardless of a scientist's geographic location, institutional affiliation, academic rank, or identity. We must not sew more structural inequity into the very fabric of the enterprise we seek to improve.

–Sudip Parikh, Shirley M. Malcom, Bill Moran

Sudip Parikh is the chief executive officer of the American Association for the Advancement of Science (AAAS) and executive publisher of the *Science* journals. sparikh@aaas.org

Shirley M. Malcom is senior advisor and director of SEA Change at AAAS. smalcom@aaas.org

Bill Moran is the publisher of the *Science* journals at AAAS. bmoran@aaas.org

Published online 9 September 2022; 10.1126/science.ade8028

External Presentations

MORGAN STATE UNIVERSITY
GROWING THE FUTURE LEADING THE WORLD

Massachusetts Institute of Technology

Global Discussions

Cabinet Office

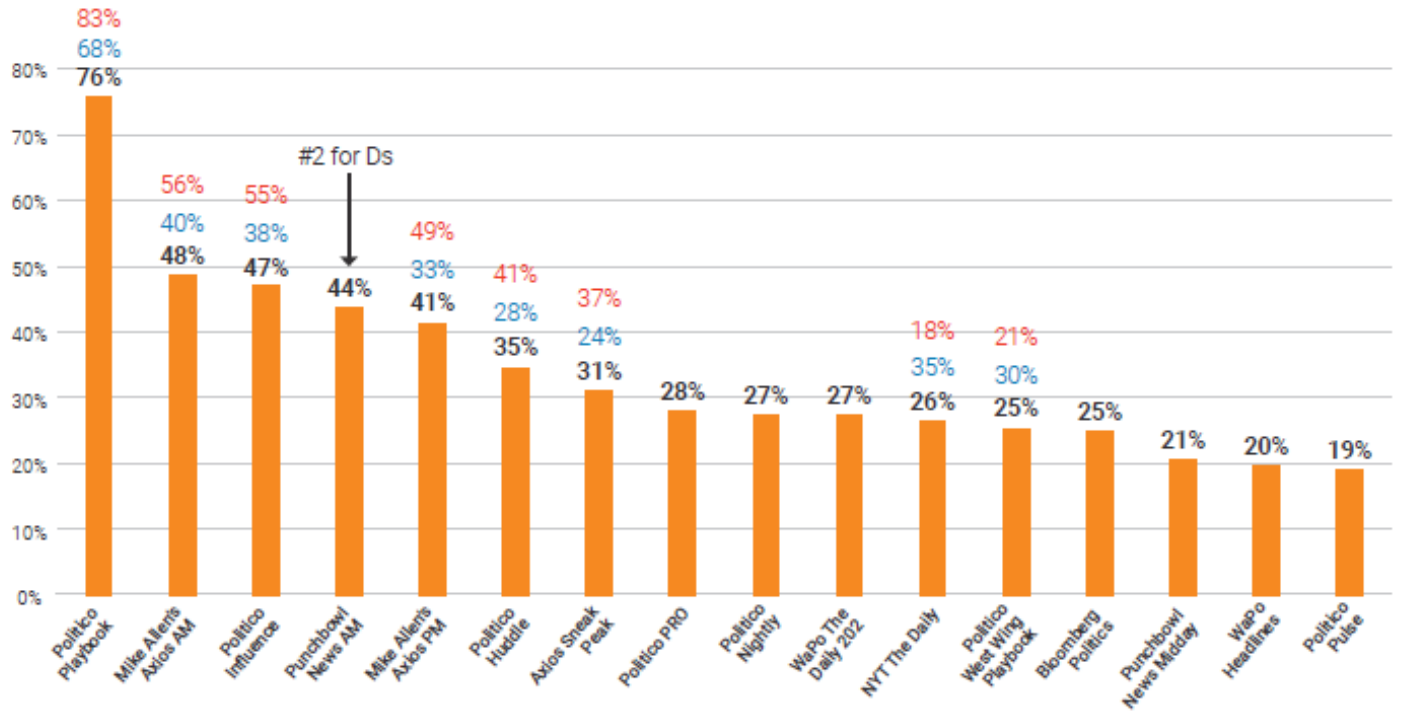
MEXT MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN

HOW ARE POLICYMAKERS GETTING THE NEWS?

THE TOPLINE

Newsletters Are The Dominant Source of Daily Information

Top Newsletters for Policy Insiders



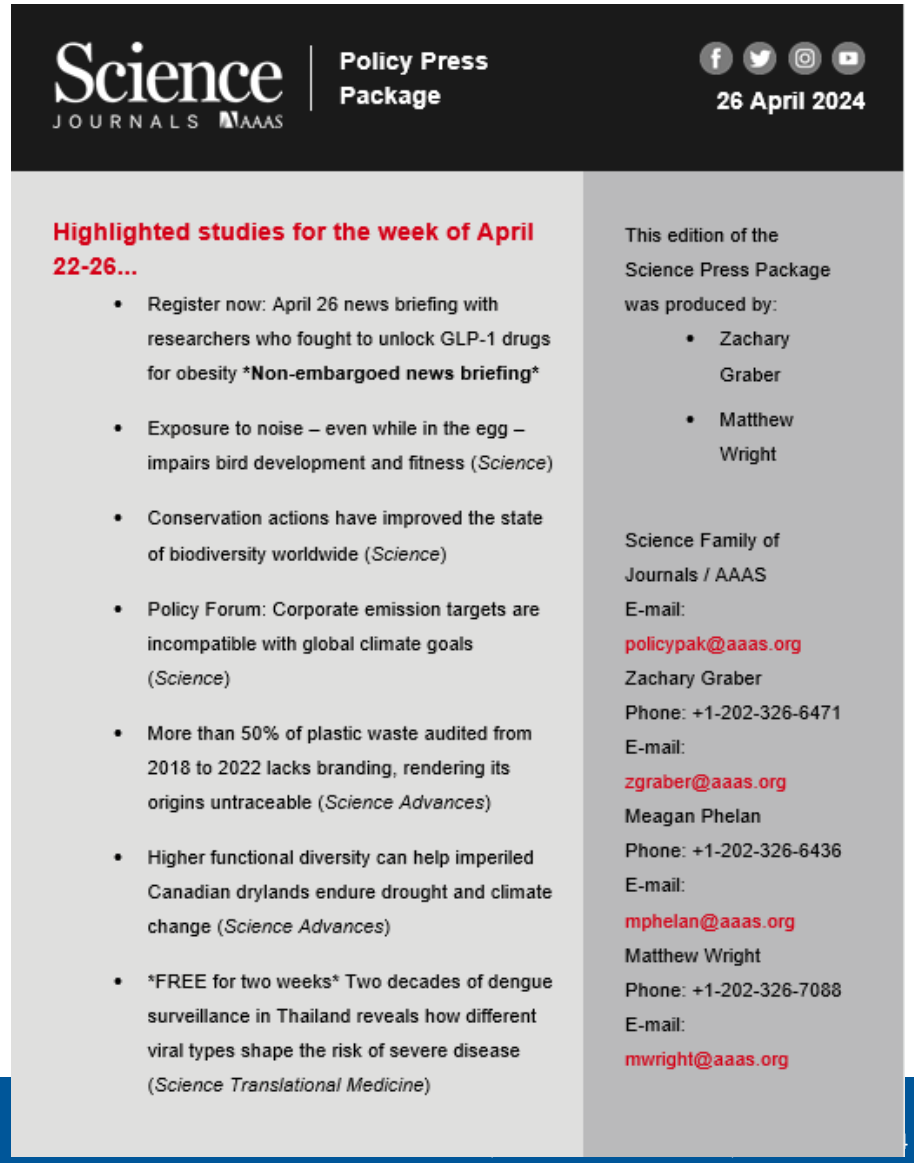
2023 POLICY INSIDERS MEDIA HABITS

“POLICY PAK”: Science for policy—and policy-makers

Evergreen Topics for PolicyPak as Identified by Axios, WashPo, POLITICO Morning Tech & POLITICO Future Pulse

- Talent flows/immigration/healthcare workforce
- Artificial intelligence
- Quantum computing
- Climate insurance
- Social science and health disparities
- International collaboration
- Pollinator status
- Vehicle electrification
- Race and Justice
- And more….

Post Embargo List: Press officers are welcome to sign up!
policypak@aaas.org



Science JOURNALS AAAS | Policy Press Package

26 April 2024

Highlighted studies for the week of April 22-26…

- Register now: April 26 news briefing with researchers who fought to unlock GLP-1 drugs for obesity ***Non-embargoed news briefing***
- Exposure to noise – even while in the egg – impairs bird development and fitness (*Science*)
- Conservation actions have improved the state of biodiversity worldwide (*Science*)
- Policy Forum: Corporate emission targets are incompatible with global climate goals (*Science*)
- More than 50% of plastic waste audited from 2018 to 2022 lacks branding, rendering its origins untraceable (*Science Advances*)
- Higher functional diversity can help imperiled Canadian drylands endure drought and climate change (*Science Advances*)
- *FREE for two weeks* Two decades of dengue surveillance in Thailand reveals how different viral types shape the risk of severe disease (*Science Translational Medicine*)

This edition of the Science Press Package was produced by:

- Zachary Graber
- Matthew Wright

Science Family of Journals / AAAS
E-mail: policypak@aaas.org
Zachary Graber
Phone: +1-202-326-6471
E-mail: zgraber@aaas.org
Meagan Phelan
Phone: +1-202-326-6436
E-mail: mphelan@aaas.org
Matthew Wright
Phone: +1-202-326-7088
E-mail: mwright@aaas.org