International Conference on Science and Technology for Sustainability 2024

Ecosystem for Sustainable Innovation: Toward Sustainable Science and Society in 2040

Revitalizing Japan's Innovation Ecosystem: Ten Critical Issues for Science and Society in 2040

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Young Academy of Japan

The Young Academy of Japan, a branch of the Science Council, is a unique organization of researchers under 45, representing diverse fields from humanities and social sciences to natural sciences.

Our activities

1. **Think Tank Activities**
2. **Incorporating Young Researchers' Perspectives**
3. **Discussions on Special Issues (Subcommittees)**

Total Members of the 26th Young Academy of Japan: 46
(Dec. 2023 – Sep. 2026)

7 Subcommittees

Subcommittee Name	Matters for Deliberation
Subcommittee on Human Resource Development for the Future of Science	• Foster early-career researchers to lead the next generation of academia • Address challenges in educating middle school, high school, and university students
Subcommittee on Work-Life Balance	• Implement strategies to achieve work-life balance • Identify and mitigate the overburdening of female researchers
Subcommittee on Interdisciplinary Research and Activities	• Explore integration across scientific disciplines • Investigate new methods to express academic achievements
Subcommittee on International Activities	• Define the role of Japanese academia in global society and domestic activities • Promote and coordinate international activities of the Young Academy • Address challenges in internationalizing research fields • Tackle issues in science diplomacy and technology transfer • Ensure equitable access to knowledge on a global scale
Subcommittee on Social Collaboration for Innovation	• Strengthen academia-industry-government collaboration for innovation • Build sustainable innovation ecosystems • Drive regional revitalization through innovation
Subcommittee on Social Collaboration for Regional Vitalization	• Highlight and evaluate scientists' roles in local communities • Facilitate collaboration among public, private, and academic sectors for regional development • Review past partnerships between scientists and communities, and envision future efforts • Advance interdisciplinary and regional research activities
Public Relations Subcommittee	• Manage and enhance the Young Academy's official website • Disseminate information effectively through the Young Academy's channels

Recent Initiatives

Gather insights from early-career researchers

Participate in deliberations of the Science Council of Japan

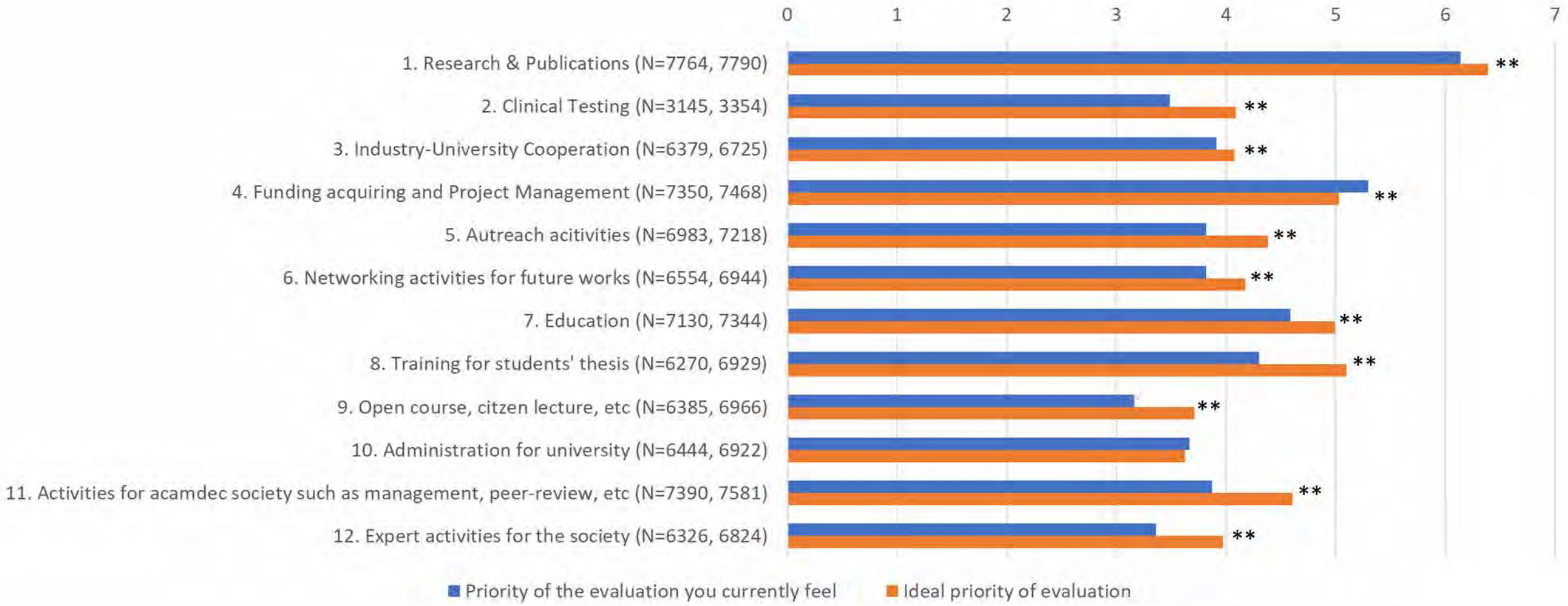
Engage with local stakeholders and corporate representatives

Collaborate with early-career researchers globally

Foster dialogue with the general public

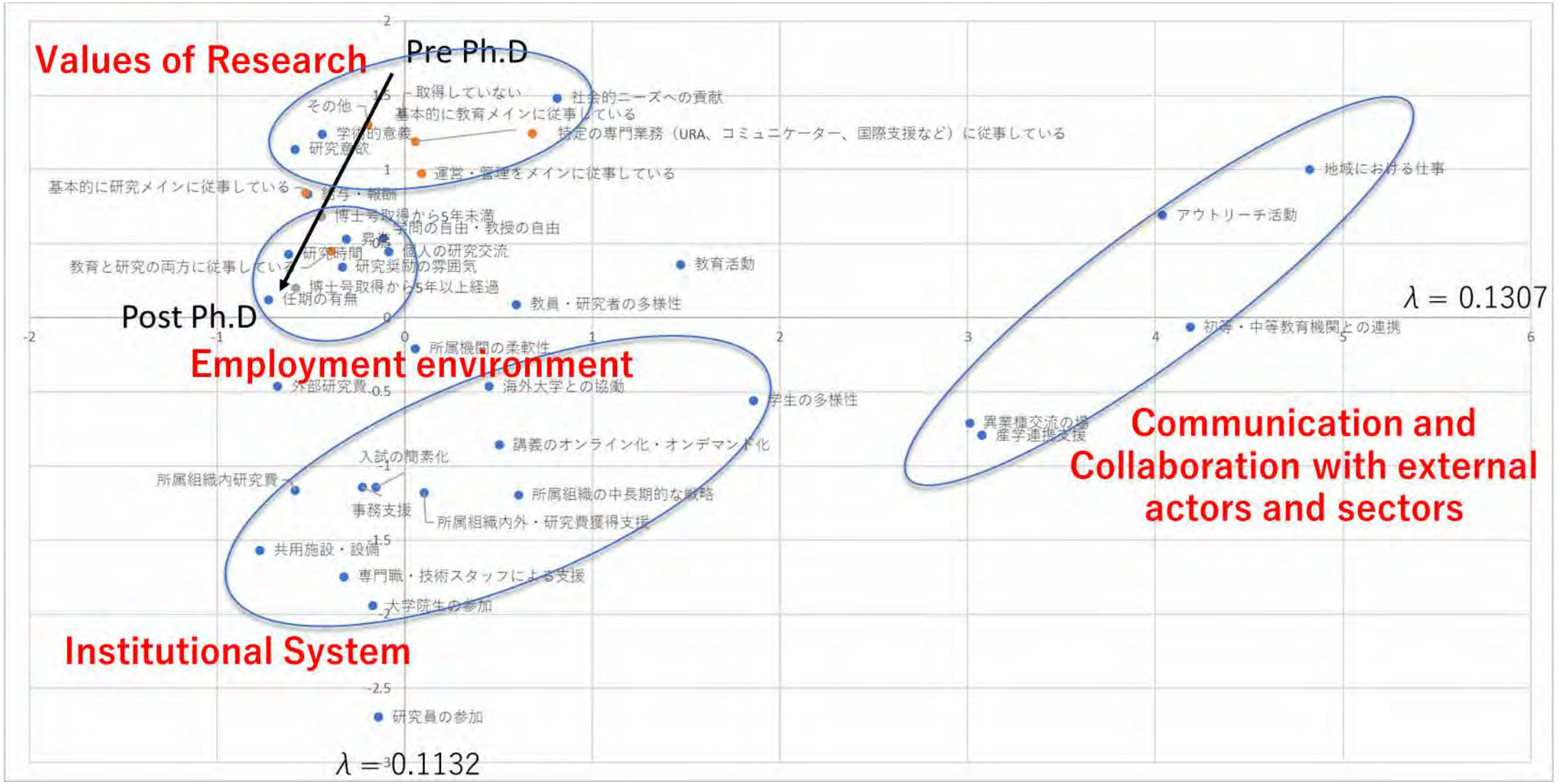
Exchange ideas with technical staff and research administrators

Example of Results: Sense of Importance to evaluation items. - Current sense v.s. Ideal



(N is the number of respondents who answered the questionnaire. The former N is their responses to the current evaluation. The latter is their responses to the ideal evaluation. Combinations that include missing data were excluded. Paired *t*-test was conducted. ** $p < 0.01$, * $p < 0.05$.)

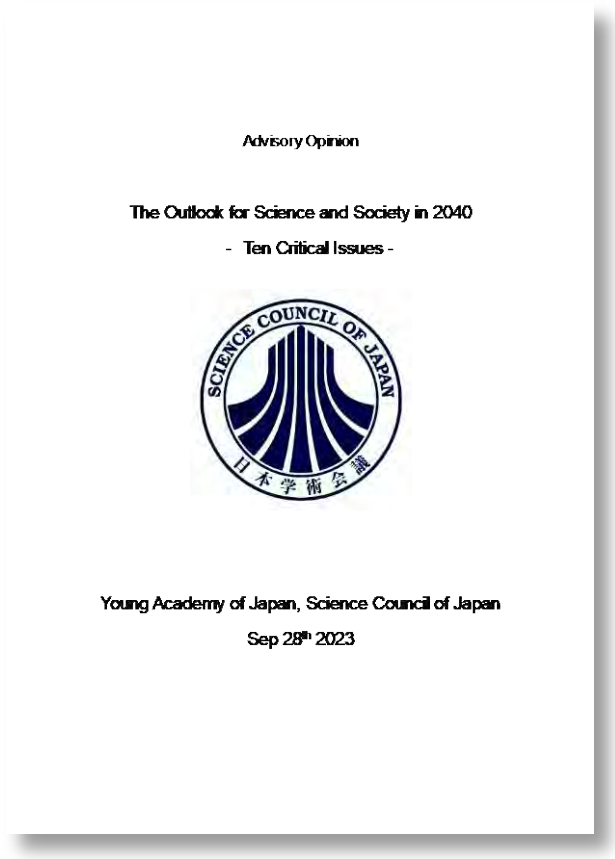
Multiple-Correspondence Analysis on chosen items as important factors for knowledge production (Items with a selection rate of less than 5% are excluded. N=7842)



- Items that are more likely to be selected together are placed closer together (items that are less likely to be selected together are placed further apart)
- The overall closeness/distance is used to evaluate this relationship.

Advisory Opinion

The Outlook for Science and Society in 2040
- Ten Critical Issues -



Key Features

1. Reflects the Needs of Young Researchers
2. Interdisciplinary and Multifaceted
3. Focused Prioritization
4. Official and Authoritative
5. Rich in References and Data

Outreach to Society

毎日新聞 2023年(令和5年)8月3日(木) 18版 科学 14

科学の森 —kagaku no mori—

科学と社会 より良い関係を

日本学術会議若手アカデミーがまとめた「10の提言」

1. 基盤的・伝統的分野における知識や技術の基礎
2. 基礎研究や地域連携に対する評価や支援の拡充
3. 博士号取得者を強するコアファシリティーの充実
4. セクターを超えた共創プラットフォームの整備
5. 競争的資金を活用するための基盤的経費の拡充と研究支援人材の増強
6. 科学技術外交に関わるキャリアパスの整備
7. 適度な経営的視点や失敗を許さない前例踏襲主義からの脱却
8. 教育費の家計負担の低減
9. アカデミア自身の(業界体質)の改善
10. 博士号取得者のセクターを超えた活用とジョブ型雇用の推進

科学や学術は、どうしたらもっと社会の役に立てるのか――。日本学術会議の将来構想の研究者でつくる「若手アカデミー」が提言をまとめた。現役パリバリの研究者たちは何を思い、どのような未来を志すのか。

学術会議の若手、10の提言

「50年後、社会をどうしていくのか、そこに学術や科学がどう関わっていくのか、立場を超えて議論できたら」。昨年4月、東京都港区の日本学術会議フォーラムで開かれた「10年後の学術会議若手アカデミーフォーラム」。400人以上が参加を申し込み、壇上には若手アカデミーのメンバーや民間企業の代表、文部科学省の職員らが並んだ。多くの若手に絞じてもらおうと、会場は比較的若い研究者で満席となった。

議論の柱になったのは、「2040年の科学・学術と社会を展望する10の提言」。若手アカデミーが昨年3月にまとめた。提言の枠を超えた活動をしたい」と、提言は現場で、わっていこうという気力が伝わってきた。

●多様化と増す研究職

提言には、日本の学術界が抱える危機感がにじむ。

研究者の多様化が進む一方、研究職の不安定さは増している。文科省の18年度の調査によると、博士課程修了者の約6割が任期付きの職に就いていた。「研究職は『選ばれない』と指摘。優秀な研究者が安心して研究に専念できる環境を整えるべきだ」と訴える。

●ビジョンを共有

科学は「何に生かすかまで含めた分野」の若手研究者が集まる「ハードワークが美徳」とされる学術界の価値観を問い直すことも提言する。

若手アカデミーはなぜ、声を上げたのだろうか。

日本の大学医学部の教授は、40年前の3分の1に減ったという試算がある。研究職に就くことの魅力が低下しているとの危機感がある。

若手アカデミーは、初年度の活動として、提言の具体化に向けた議論を深めていく。

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NEWS | 25 October 2023

Japanese research is no longer world class – here's why

Despite a strong workforce, Japan's research continues to slide down the indicators of quality.

By Anna Ikarashi

Featured in a Newspaper

August 3, 2023

Broadcast on Radio

October 3, 2023

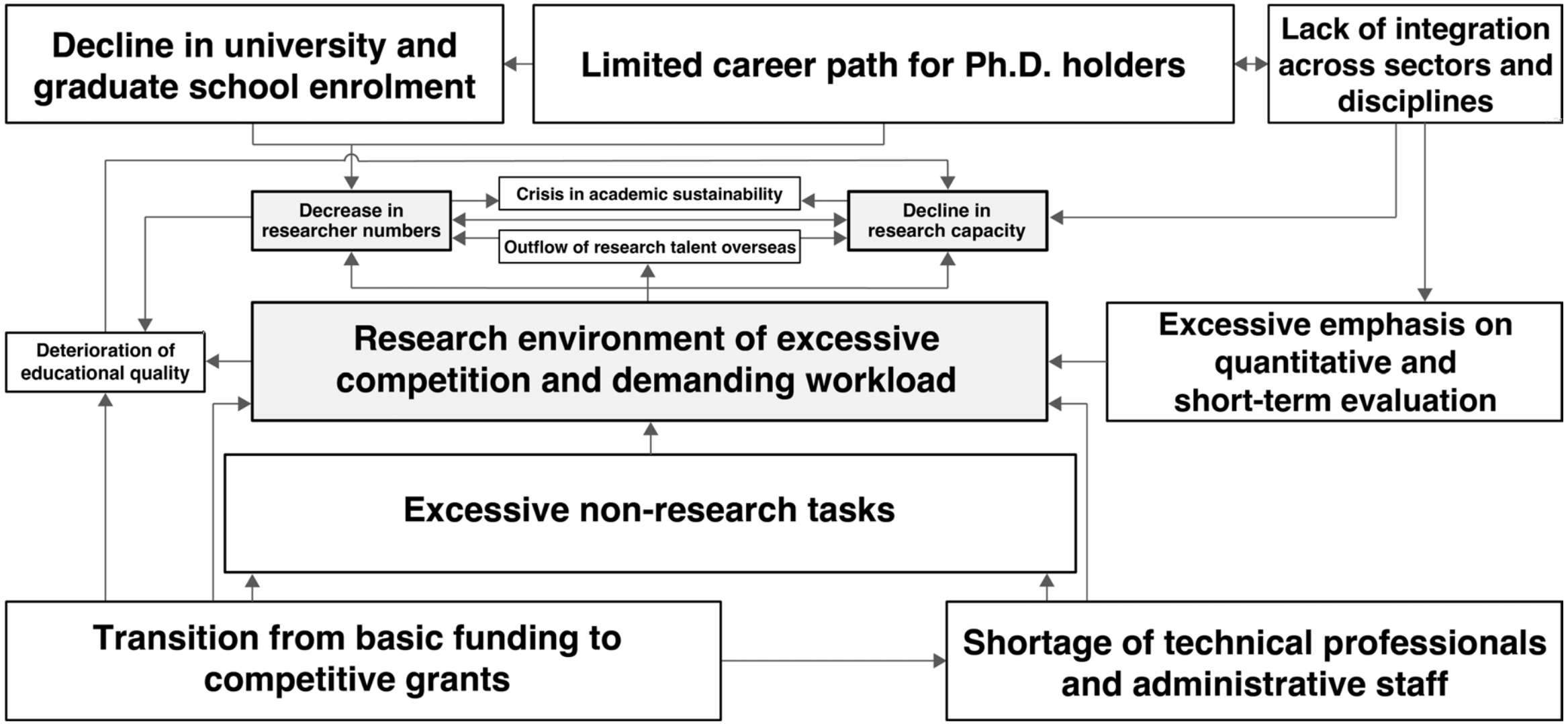
Published in *Nature*

October 25, 2023

To create better innovation ecosystem

Now is the critical time to enhance the research environment while fostering human resources and establishing clear career paths. Without these efforts, progress in interdisciplinary research, international collaboration, and regional collaboration will stagnate, jeopardizing Japan's ability to drive innovation over the next 20 years.

Structural problems that hinder innovation creation



Ten Critical Issues for Science and Society in 2040

(1) Cultivating fundamental and traditional knowledge and technology

The cultivation and accumulation of knowledge and technology in fundamental fields is the seed bed of innovation.

(2) Strengthening evaluation and support for interdisciplinary research and regional collaboration together with local stakeholders

A system for evaluating academic ventures aimed at interdisciplinary research and solving regional challenges requires appropriate staffing and a budget.

(3) Enhancing core facilities with Ph.D. holders

Strengthening core facilities with skilled technical personnel with doctoral degrees: to promote innovation and expand career paths.

(4) Cultivating a cross-sector collaborative ecosystem

A collaborative system is needed for academia, industry, government, and local stakeholders to address various interdisciplinary challenges.

Ten Critical Issues for Science and Society in 2040

(5) Enhancing basic funding and research support personnel

A paradoxical situation exists whereby competitive funds are underutilized due to a lack of basic expenses and human resources.

(6) Establishing career paths in science diplomacy

It is important to cultivate individuals capable of spearheading science and technology diplomacy and developing their career trajectories.

(7) Overcoming the "zero-failure" bureaucratic mind in science management

To truly drive innovation, it is imperative to transcend the bureaucratic, managerial mindset and understand and accept the inherent risks of pioneering work.

(8) Reducing the burden of education on households

To stem the decline in the number of graduate students and secure human resources for the future, it is essential to substantially reduce the financial burden of education on families.

Ten Critical Issues for Science and Society in 2040

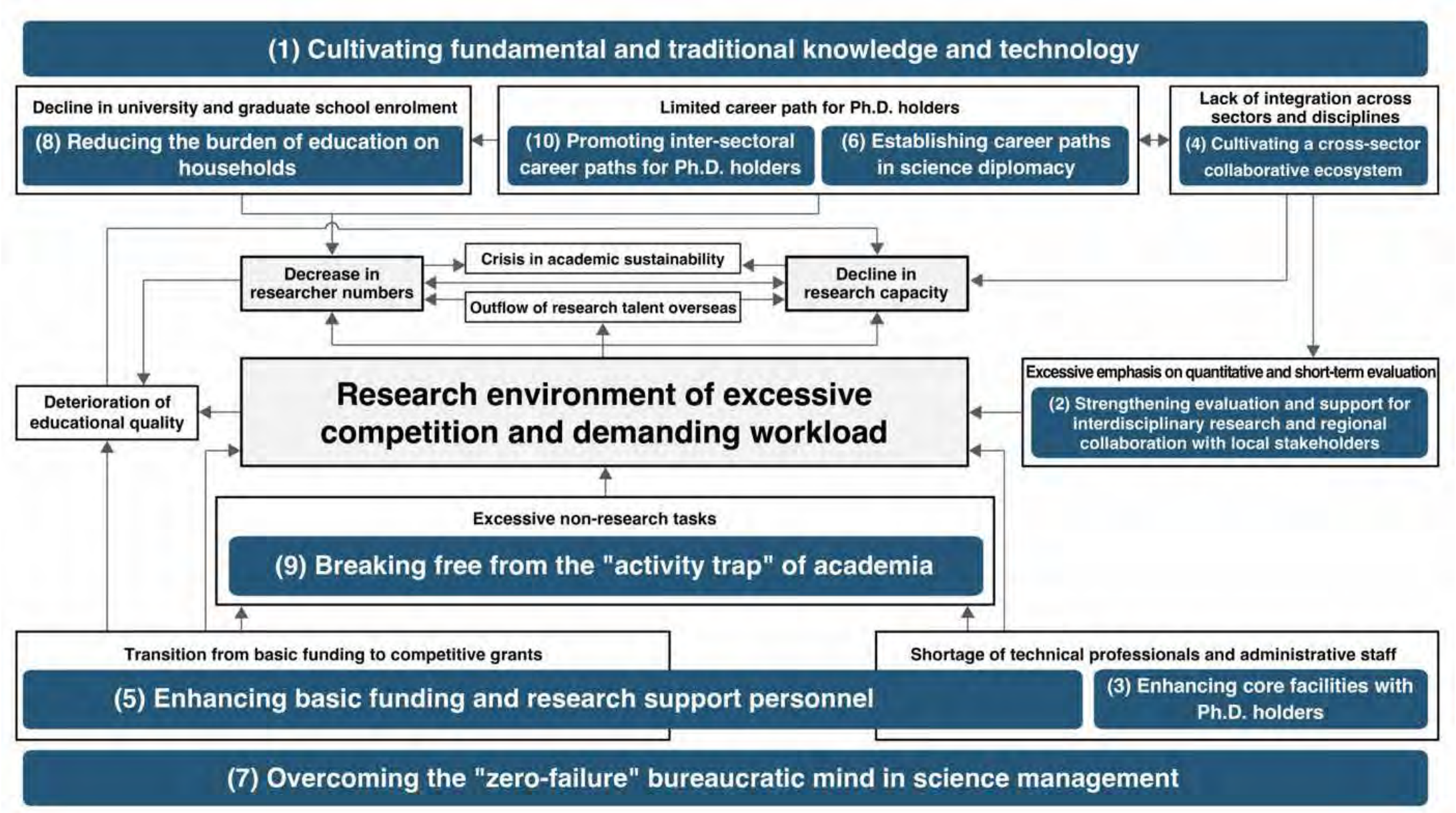
(9) Breaking free from the "Activity Trap" of Academia

It is essential to change the culture that valorizes relentless effort and align its operations with its core objectives.

(10) Promoting inter-sectoral career paths for Ph.D. holders

It is imperative to promote the use of specialized expertise across sectors, to job expand mobility and job-based employment.

Ten pressing issues to address the creation of innovation



We must create the sustainable global innovation ecosystem, across countries and sectors, for the next 20 years

Our Ten critical issues are the keys!

Structural problems that hinder innovation creation